# The Annual Oration.

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MR. PRESIDENT AND GENTLEMEN,—I must, in the first place, thank you for the great honour you have done me in asking me to speak here to-night; although it is truly no easy task to address the Medical Society of London in the room which has echoed the wise and eloquent words of Marshall Hall and Humphry, of Hutchinson and Lister and Crichton Browne. That my words can never compare with theirs I know full well, and so I pray that this audience to-night may be merciful and long-suffering towards me. The best thing a man can talk about is that which he has most recently and most earnestly been thinking about. I have said—indeed, I am vain enough to hope that I have done—some things for the furtherance of medical education; and, in the course of considering what professional training was best suited for a youth so as to make him a well-educated medical practitioner, I have been tempted to go further and to inquire into the position of the said practitioner as a well-educated man. And so to-night, as I am free to choose my subject, I will leave alone strictly professional topics (for these we have always with us) and ask you to take a glance at the relations between our profession and the world of letters. Are the study and practice of medicine of a nature to attract men to the field of literature? I fear not. Our studies, although almost entrancing in many of their departments, give no play to the imagination. The branches of the femoral artery and the sciatic nerve are, to all intents and purposes, numbered, fixed and immutable. When we are trying to unravel the functions of brain or muscle or gland there must be no rein given to speculative hypotheses—sweet as stolen fruit; there must be no poetic "fancy free" to dazzle and divert our sober reason. The light of science is given forth from the clear, steady-burning lamp of the student, and not from the fiery cresset that flares amidst shipwreck and storm or lightens the skies on nights of glorious and bloody battle. And when we come to the actual practice of our art, what are we confronted with? With sickness, with pain, with grief, with misery, with death—with so many things that are sad and repulsive that many a time we have to string up all our inner man to battle against them. It is often no easy task for the medical man to maintain that amount of cheerfulness without which his own life would be wretched, without which his patients would be bereft alike of hope and comfort. The temperament so engendered is certainly not that which will be likely to direct a man's mental footsteps down the sweet, shady alleys of poetry or fiction; and yet, in spite of all that, of the three learned professions—divinity, law and medicine—I believe we stand foremost in the number of distinguished literary men who began life in our ranks. Need one mention Goldsmith? "The Deserted Village," that sweetest poem in our language, and "The Vicar of Wakefield" will be read whilst an English tongue wags in an English head. And there was Akenside—forgotten as physician to St. Thomas's Hospital, unknown as Gulstonian Lecturer and Fellow of the Royal Society, but still remembered and admired as the author of "The Pleasures of Imagination" and of some of the most beautiful pastoral poems imaginable. Sir Samuel Garth, the life-long friend of Pope—the man by whose kindly help the remains of Dryden were borne to their last resting-place—was an admirable physician and no bad poet either. "The Dispensary" sounds a curious title for a poem; but Dr. Johnson said "it was on the side of charity against the intrigues of interest, and was, therefore, naturally favoured by those who read and can judge of poetry." We can claim old Crabbe, too—"Nature's sternest painter, yet the best"—for he was a general practitioner before he became the Duke of Rutland's chaplain. I am delighted to find Crabbe coming again into public favour. Modern poetry is rather like some kinds of modern painting; there is so much of the symphonist and the impressionist about it that it passes the wit of the average man to make head or tail of it; but Crabbe's work is like a picture by old Teniers or Van Mieris. It tells its own tale, and its colours are as clear and brilliant as on the day they were laid on the canvas; and if we pass from poetry to prose the name of Smollett is no bad name to conjure with. Day by day a cascade of novels tumbles on the heads of the British public, drenching them with words, words, words. How many of these have the stuff in them to last a hundred and fifty years and still be fresh and racy, like "Roderick Random" and "Peregrine Pickle" and "Humphry Clinker?" And then there was the handsome, courtly, mirth-loving Arbuthnot, Queen Anne's physician, with whom Swift used to prowl about St. James's arm in arm, and whom he used to talk about in the "Journal to Stella." What fun there is in "Martinus Scribierus," whilst from the "History of John Bull" dates the origin of the conventional Englishmen whom *Punch* draws for us now. Pope sadly but gratefully said of him—

> "The muse but served to ease some friend, not wife,
> To help me through this long disease, my life
> To second, Arbuthnot! thy art and care
> And teach the being you preserved to bear,
> * * * * * *
> Oh, friend! may each domestic bliss be thine."

It has been truly said that the name of John Locke is as little associated with the profession of medicine as that of Sir James Mackintosh, who was a practising physician till ambition and poverty made him select a more lucrative vocation and turn his energies to the Bar; but that the great philosopher actually practised medicine at Oxford there is no doubt. Sydenham relates how his method of treating acute diseases had received the approbation of Mr. John Locke, "who had examined it at the bottom, and who, if we consider his genius and penetration and exact judgment, has scarcely any superior and few equals now living." The present is the day of mental evisceration, the day of sentimentalists, who agonise in public and dissect their emotions at so much a paragraph. What a contrast to read the "Religio Medici" of old Sir Thomas Browne and learn from his simple and manly words the secret of the faith that was in him.

If we come nearer to our own time, there was Mason Good, who translated "Lucretius" whilst tramping the streets of London to visit his patients, and Leyden, the great Oriental scholar, who mastered nearly all the languages of the East and gave to English readers the "Commentaries of Baber"; and there was Dr. Thomas Young, who first deciphered the writings of the old Egyptians, who called to life the dead history of a bygone world and who summoned the mummy of an ancient king to tell the story of 3000 years ago; and "Delta" Moir, the country doctor who worked amongst the fisherfolk and colliers of Musselburgh and adorned the pages of *Blackwood*. Even now we are not without a representative in the world of letters, for have we not still with us, aged in body but alert in mind, the "Autocrat of the Breakfast Table"?

In scholarship, too, amongst the older heroes of our craft we are proud to reckon some giants. Linacre, who founded the College of Physicians and was its first President, was probably one of the most learned men of his time. He was the first Englishman who read Aristotle and Galen in the original Greek. I fancy the last must be dead. At any rate, I never met him. Linacre actually taught Greek in the University of Oxford. Both as a scholar and as a physician he ranked so high that Henry VII. placed him near himself and entrusted him with the education and health of his son Prince Arthur. Just imagine living in the house of Lorenzo de Medici, teaching Sir Thomas More and having Erasmus for your friend and patient, as he had. And what a famous successor did Linacre have in John Key. Associated with letters not less than with medicine, he raised on the foundation of Gonville Hall that college in the University of Cambridge which bears his name and in whose chapel lie his bones, with the simple epitaph, "Caius fui." In that delightful book, "The Gold-headed Cane," there is a charming scene, where Radcliffe visits Mead in his library. He says: "As I have grown older every year of my life has convinced me more and more of the value of the education of the scholar and the gentleman to the thoroughbred physician. Perhaps your friend there (pointing to a volume of Celsus) expresses my meaning better than I can myself when he says that the discipline of the mind, *quamvis non faciat medicum, aptiorem tamen medicinæ*

*reddit*"—though it cannot make a man a doctor, it makes him all the better doctor. This was surely a noteworthy saying of a man whose professional life was so successful that his money built the Radcliffe Library, Observatory and Infirmary at Oxford and founded the Radcliffe Travelling Scholarships. And it is the more noteworthy because Radcliffe was not much of a scholar himself, insomuch that Sir Samuel Garth said a very funny, if rather severe, thing about him—viz., that the notion of Radcliffe bequeathing his fortune to endow a library was as if a eunuch were to leave his money to build a harem. However, gentlemen, when we pay a visit to Oxford or Cambridge, we may cock our beavers as we walk past the Radcliffe Library or Caius College and remember that two doctors built them. Mead, again, who succeeded Radcliffe as President of the College of Physicians, was a most accomplished scholar and one of the most erudite men of his day. There were few such patrons of learning even amongst the nobility. What meetings those must have been with Pope and Newton and Bentley in his great library with its ten thousand books, its marble statues of Greek philosophers and Roman emperors, its busts of great English poets, its collections of bronzes, gems, intaglios, Etruscan vases and coins. He made a magnificent income and he spent it magnificently. After his death it was said of him that of all the physicians who had ever flourished he gained the most, spent the most, and enjoyed during his life the highest reputation not only in England but abroad.

To come down from the intellectual giants of old days to our own time, I think we must frankly admit that the enormous amount of professional knowledge which the modern practitioner of medicine has to acquire effectually prevents him from rivalling his predecessor of old in the field of general literature. To attempt that would involve raising the sum of our lives from the threescore and ten years to the century—a thing, by the way, which I firmly believe will come to pass; but, whilst admitting this, have we not been neglecting too much that general learning and varied knowledge (apart from things medical) which are understood to characterise the members of a profession which proudly calls itself a "liberal" one? I fear we have. There never was a time when our calling was held in such high esteem by our fellowmen as now. Never before was the individual medical man so highly trained and so thoroughly versed in his own special work; but if you ask me what I think of the accomplishments, the mental culture and the extent of reading of our profession as a body I am bound regretfully to say that they are not as extensive, not as high, as they ought to be. In looking into the reasons for this state of matters it appears to me that three things conspire to account for it. Firstly, there is the very defective school training which boys destined for our profession for the most part go through; secondly, there is the fact that so soon as medical study commences there comes an interval of five years so enthralling in its claims on the student's brains and time that it is an absolute blank to him as regards general reading—during that time he loses the habit and the love of it; and, finally, in after life there is the exacting and exhausting nature of our occupation, which too often drags the medical man down to the level of a mere patient-visiting machine.

First, then, let us take up the question of inferior school training. This especially exists in England. The youths who elect to join our profession are drawn from the middle class of society. I would even go further and say that only a certain proportion of them are drawn from the upper middle class. Now, the great majority of these youths have received their education as boys in the private preparatory day schools of their towns, and I venture to say that in the whole range of educational institutions, from the highest to the lowest, there are none where teaching is so bad as in this class of school. That very sensible people, the Germans, do not believe in inspired schoolmasters, they believe in the science of pedagogy and in the business of teaching the teacher how to teach. The Scotch are credited with being a money-loving people, but it must in fairness be admitted that they have loved learning as well. Now, as far back as I can remember, there was in Edinburgh a certain "normal school," as it was termed, where young men and women were trained to be teachers. The truth is, that at the present moment the middle-class boy has not even the guarantee for good teaching that the School Board boy has; for not only are the teachers of the latter most carefully prepared for the business of their lives, but the manner of their teaching and the quality thereof are subject to constant and careful inspection. From the lower middle-class day-schools of our great towns I assert that at present we get only an inferior product. I often ask a new dresser to read a report of his case and at the end of it am compelled to say, "Sir, your production is on a par with the letter of the cook to her intimate friend, which winds up with 'this cums hopping.'" In truth, to that young gentleman grammar, capital letters and stops are of no more moment than vowels to an etymologist. As for writing out a prescription in full, the Latin gender and genitive case present such insuperable difficulties that Pot. Iod. is about as far as we generally get. Now, it is clear that two persons are to blame in this matter. The first is the teacher, who does not teach the boy thoroughly; the second is the examiner, who does not examine the young man thoroughly. There are certain university entrance examinations in arts for medical students which exact a good amount of knowledge from the candidates; but, possessing, as I do, a very intimate acquaintance with the subject, I maintain that with regard to the examinations for the licensing colleges there are a vast number of students rubbed through their sieve who ought to have been caught and retained on the way. As to these colleges publishing their subjects and their questions, and offering them to public view as evidence of the high standard of their examinations, I value their printed papers at the value of the paper they are printed on. What I want to see is the answers to their questions; but these are not forthcoming. The General Medical Council, in exacting a five years' course of medical study, has done a very remarkable thing for the advancement of our profession; but with a uniform five years' curriculum the method of spending the five years will soon shake itself into shape and therefore the question of the strictly professional studies of the student need not for a long time occupy much thought. What is now wanted is that the Council should look more stringently into the entrance examinations. Let them get hold, not of the question paper of the examiner, but of the answer paper of the examinee, and let them ascertain what the standard really is which passes a man through the portals of our profession.

There is another matter which is telling seriously upon the sound education of our boys, and that is the undue prominence given in the present day to athletics. Now, let me premise by saying that my age and proportions at the present day are hardly such as to justify me calling myself an athlete, nevertheless I have all my life been a lover of sport and exercise. I have the profoundest belief in the *corpus sanum*. I know that it is the out-door life and habits of Englishmen that have enabled them to fight and conquer and colonise in every climate of the world, from Hudson's Bay to Ceylon; but it seems nowadays to be forgotten that, after all, the *corpus sanum* is merely the fleshly tabernacle of the *mens sana*. I object strenuously to a boy being encouraged to regard the life of a mere athlete as the highest to which a human being with an intellect can aspire; but at English schools thews and sinews seem to be the only objects of admiration and respect. Brains are out of fashion. Well might the German schoolmaster say that the English boy plays at his work and works at his play. I have asked many a proud mother about her son at some public school and been told with a radiant air, "Oh, he is doing splendidly, getting on *so* well." This means that he is captain of the school eleven, or has got into the first football team, or is stroke of the school boat. Never by any chance do I hear of the boy's position in his class or form, of his progress in his studies, of the prizes he has gained. In fact, the studious boy is regarded with contempt by the great majority of his fellows. The very masters have to be athletes. One knows the usual style of advertisement for a junior master: "Must be Church of England and a good cricketer," like the crack emigrant ship of former days which was advertised to carry a cow and an experienced practitioner. I assure you, gentlemen, so little have our students been trained to use their brains as schoolboys that it takes most of them, after they have scraped through an easy preliminary examination, the best part of a couple of years to get into habits of steady, methodical, hard work. As for the fine, handsome young gladiators turned out by Eton and Harrow and Rugby, the School Board boy is ousting them out of the office and the counting-house, whilst getting into the army nowadays means work. Too often their expensive education is found only to have fitted them to go farming in Manitoba, cattle ranching in Texas, sheep raising in New Zealand or bar-tending in Australia. The worship of bone and muscle has gone a shade too far in this

country. I trust the pendulum has swung to its furthest. In attacking the schools where our students too often receive their early training I would have you remember that it is not so much the things that are taught as the manner in which they are taught that I am criticising. What I complain of is a want of sound, honest, thorough "grounding" in a few things and an omnipresence of superficial smatterings. Also of a failure to impress the boy with the importance of the fact that upon his early work very generally hangs his whole future life; likewise of a tendency to pay attention solely to those boys who evince a natural aptitude and liking for work, whilst the rank and file, who do not like work, are not whipped up and drilled into it until they do like it. As to what a schoolboy should learn, *tot homines quot sententiæ;* but I have lived sufficiently long to have seen and watched a great many schoolboys grow into men. As a result I will propound what will doubtless seem to you almost a paradox—viz., that if a boy destined for a profession were to be taught nothing but reading, writing, and arithmetic till he was eleven, and after that nothing but Greek and Latin and mathematics till he was eighteen, at fifty that boy would turn out a more widely cultured, better read man than if in his early years he had been stuffed with geography, history, philosophy and the twopenny-halfpenny fragments of chemistry, botany and zoology which constitute school science. All these things will come to him in time. Let him learn thoroughly the elements and the rudiments.

Let us now turn to point number two—the blank in the medical student's literary life caused by his curriculum of scientific study. At a time when other young men going into professions are revelling in a delightful freedom from school-boy drudgery and wandering at their own sweet wills down the nearest and most fascinating glades of literature, the medical student must sit down to five long years of hard and incessant work at science. During that period there is no possibility whatever of his keeping up his general reading. Every hour must be given up to the inexorable necessities of his professional work. Before I began to study medicine I was an omnivorous reader; but so completely did my medical reading crush out of me all desire for general literature that it was long after I graduated ere the desire for it returned. I had almost to force myself to it. Indeed, had I not been thrown into the society of some professional friends, who were men of cultivated tastes and wide knowledge, the old love might never have come back. On the other hand, had I been plunged into a hard, busy general practice, or planted away in a lonely country district, the local newspaper and the weekly medical journal might well have limited my mental horizon. Not for a moment do I mean to say that the varied studies involved in a medical education are not pleasant. They are more than that—they are entrancing. Every day brings fresh delights—the delights that children experience who ramble on a holiday into some unknown forest. But when they are over, what then? Then comes practice, with the weary, harassing, often disappointing realities of life. Can the practitioner fly for solace and repose for his jaded mind to his student text-books? I trow not. The essay, the review, the poem, the incident of travel, the glamour of history, the romance: these are the things that for a short, sweet evening hour or two will carry him into a land where there are no querulous complainings of sick men, no tearful faces of anxious relatives, no thankless words of ungrateful patients.

This brings us to our third head—the argument that, when the practitioner comes home jaded and exhausted by a day of toil, he has neither bodily nor mental strength to sit down to read; but my contention is that, if the practitioner has learned to love good books, he will find in them the very thing he needs—rest and comfort such as he cannot get from anything else. If he has lost the love of letters he must force himself back to it. There may—there will be—an effort at first. Nothing that is really excellent is easy to do or to find. It is as with a beginner practising scales on a musical instrument—weary, monotonous drudgery. But after he has patiently mastered these difficulties he suddenly makes the discovery that he can play tunes, and straightway the whole realm of music lies open to him. Ever after he flies for his chiefest delight to that instrument which at first was so ungrateful and irksome. I would say, moreover, to those who hold that the life of the average practitioner is so engrossing and fatiguing that the utmost he can do is to read his newspaper and his medical magazine that there is no necessity to go outside the limits of our own profession to see how erroneous that view is. Look at the men who are our acknowledged leaders. They are, every one of them, men of cultivated minds, who know many things outside their own special craft. Surely their lives have not been easy ones: lives devoted to hard, professional toil, to laborious scientific research, to the strain of lecturing and teaching. But there is none among them who has not found time to put into the prescription of his daily life what the old apothecaries used to call the "corrective and adjuvant," a good book by the fireside at night. Every wise man feels in his heart that, if he lives sufficiently long, a time will come when ambitious toil and money-getting labour will cease to satisfy. He recognises early the fact that in order to enjoy his old age he must not only have well-lined pockets but a well-stored brain; for the Frenchman La Bruyère was right when he said that man too often employs the greater part of his life only to make the remainder miserable.

Ours is, no doubt, a hard and trying occupation; our climate for the most part is dull and depressing, our big towns are gloomy and unlovely and we are said to take even our very pleasures sadly. Heinreich Heine, who never lost an opportunity of venting his spleen on England, nevertheless worshipped Shakespeare. He called him "The Sun of England." He said: "Shakespeare has, indeed, been a spiritual sun for that country, where the real sun is wanting twelve months in the year; for that island of damnation, that Botany Bay without a southern climate, that stone-coal-stinking, machinery-buzzing, church-going and vilely drunken England." For his charming comparison of the greatest of poets to the sun that lightens up the Englishman's home we may forgive Heine his other savage words. Surely, with Shakespeare and Byron and Tennyson, with Scott and Dickens and Thackeray, with Carlyle and Macaulay and Prescott, even the humblest practitioner should be able to draw down some sun into his soul. Sir John Lubbock, in his own charming way, has always tried to make us look upon our books as our friends. They are, in truth, a man's very best or very worst friends just as he choses to use them. There are not many men who intentionally cultivate the society of blackguards, and so there are not many who of *malice prepense* set themselves deliberately to read filthy or degrading books. But there are a great many persons who are fond of pleasant, attractive, careless friends: friends who are not too particular about anything; who do not do anything very bad, but who certainly do very little good; whose conversation, though amusing, is trivial, and who at heart are untrustworthy and unsatisfying. It seems to me that in literature that sort of friend corresponds to newspapers, trashy novels and cheap magazines—all pleasant acquaintances in their way, but not good enough to be made the companions of a lifetime. Once a man elects to ally himself with these, his literary decadence is ensured. *Noscitur a sociis.* If you find him constantly in their company you will look round in vain for his bookcase. It is an immense pride and pleasure to us to think that of all the learned professions none in late years has advanced—none is advancing—in public estimation so rapidly as ours. Medicine, in place of being the scoff of every would-be wit or poetaster, as it was two centuries ago, is now regarded with astonishment and respect. We are not merely healers of the individual units of the population whom we call our patients. All through the length and breadth of the land medical officers of health stand on guard to ward off infection and pestilence from whole districts and cities. In the year 1872, at Manchester, that most sagacious and prescient man, Lord Beaconsfield, spoke these words: "In my mind the great social question which should engage the attention of statesmen is the health of the people, for it refers to all those subjects which, if properly treated, may advance the comfort and happiness of man. A very great man and a very great scholar two or three hundred years ago said that he always thought that in the Vulgate that wise and witty king of Israel, when he said *Vanitas vanitatum, omnia vanitas,* should really have said *Sanitas sanitatum, omnia sanitas.* I am sure that, had King Solomon said that, he could not have said a wiser thing." But the statesmen of his time, the followers of that *haute politique* which philosophised about the balance of power and formed petty cabals in the drawing-rooms of the Lee Hunters of the day, contemptuously stigmatised his policy as "a policy of sewage." Over twenty years roll by, and the other day the Marquis of Salisbury went down to Oxford to plead for the Radcliffe Infirmary. He said: "I believe that if you respond munificently to the appeal that is made to you you will do something more than place this infirmary

in a position of which it need not be ashamed; you will be taking a long step towards introducing more closely the cultivation of one of the greatest of sciences—the science of medicine—in this ancient university. I always think that science has scarcely received amongst us all the tribute that it ought to receive amongst the sciences which rest upon observation. It is the most sober, the most absolute, the most positive amongst all the sciences. Again, there is no other science which is but another name for a work of mercy; there is no other science that is so closely linked with the relief of human suffering as a remedy for human calamity in its most overwhelming form. It is a curious coincidence, a curious fact, that at this moment the whole tendency of scientific thought appears to be rapidly concentrating itself upon the fields in which medicine reigns supreme. In the early part of this century the infinitely small, or mainly the inanimate, portion of creation—the atoms and all that surrounded them—ran supreme in the minds of scientific men. In the middle of the century it was something more delicate still—the discovery of the spectroscope and the meaning and interpretation of the infinitely small waves of that light whose nature we are not yet able to discern. Now, partly under the pressure of human necessity, there is another portion of the infinitely small—the bacilli—which is attracting more and more the attention of the scientific intellect of Europe. It is dangerous always to prophesy, but I do not think anyone who has watched the course of science will doubt that, for a generation to come, the investigation of these creatures, which have been revealed to us by new methods of research and by singularly patient labour, and upon which the lives of millions of human beings depend, will figure larger in the scientific field than any other object of study, and these are the special domain and privilege of medicine."

Gentlemen, the man who spoke these words followed in his early life the profession of letters. In his own magnificent home his relaxation is chemistry. He is the head of one of the noblest families of this land, and until recently he was Prime Minister of State. No man in so great a position has ever spoken of our profession in terms of such admiration and respect. To the sailor accustomed to watch with intensest eagerness the minutest changes of sea and sky it will often happen that the appearance of the tiniest ripple, the look of a cloud no bigger than a man's hand, are things of profound importance. I regard this speech of Lord Salisbury as full of meaning. It is a recognition in high places of the value of our art to our country at large. We are accustomed at hospital dinners and dispensary bazaars to hear from great noblemen—yea, even from princes of the blood—what good fellows we practitioners are. *Mais ça ne fait rien.* It is kindly meant and we take it kindly. But the speech of Lord Salisbury refers not to our worth as individuals, but to the public value of that profession of which even the humblest private in its ranks is proud: yes, gentlemen, and whose honour he has often died to maintain. I look forward with confidence to the time when important public duties will fall to the lot of members of our profession, and when many posts of honour and distinction will be filled by them. Even at this moment is not a medical man holding a high and prominent position in the Government of the country—Sir Walter Foster? But, looking forward, as we all must do, to a greater position for medicine in the future than ever she has had before, will it not be incumbent on her followers, more than ever, to show themselves worthy of her? And the thesis, which I am here to maintain to-night, is that we shall not be worthy of her unless we are something more than mere prescribers of physic and healers of wounds. In my youth I had it strongly recommended to me to stick to my profession and leave everything else severely alone. The life of a medical man was to see patients, do operations, order drugs and collect fees. I thank God that I entirely repudiated this idea of my profession. If I had adopted it I should never have had the honour of being asked here to-night. I hold that an excessive devotion to the literature and work of our profession is a bad thing for us. It narrows us down. Life becomes made up of "cases." I am quite certain, from my own recollection and experience, that a teacher who knows nothing but the details of that section of the healing art which he practises never has the influence over his students that a man of general culture and catholic reading possesses. The latter has more humanity in him. He takes a broader view of affairs. He has learnt that there are other things in heaven and earth than such as can be heard through a stethoscope, or seen through a microscope, or laid bare by a scalpel. Therefore I say that this knowledge gives him power over the minds of his students, who irresistibly feel that he is not merely a great healer, that he is not merely an able teacher, that he is something more: that he is a widely educated man. What shall I say of those who do the general work of our calling? Some there are literally earning their bread by the sweat of their brow amongst the poor of our overgrown cities; some there are toiling in the blackness and darkness of mining or manufacturing villages; some there are braving the storm, the rain, the frost, on the bleak roads of a wild country practice. To these men, if they would but learn to love reading, a solitary shelf of well-picked books would alone be enough to lighten and sweeten their lives.

Some fourteen years ago a very clear-headed, common-sense, worldly wise doctor, Milner Fothergill, wrote some very hard things about the social status of our profession, which he said was not equal to that of others. He unfortunately gave utterance to some remarks which were scarcely justifiable in the phraseology in which he put them. And so there fell upon him a terrible host of gentlemen, who wrote furious small-print letters in the medical journals denouncing him as a traitor to his colours—a bird fouling his own nest. On account whereof Fothergill for a while was very unpopular with that variety of practitioner who is always so exquisitely sensitive about the dignity of his profession. But I remember very well that the impression left upon me was that the furious letter-writers quite lost sight of the general bearing of Fothergill's just and courageous remarks and lashed themselves into a fiery indignation solely on account of a few indiscreet sentences which he had suffered to break loose. Now I maintain that he was in the main right. To become a gigantic mutual admiration body is a mistake. There can be nothing worse for us than to be ignorant of our weak places, and the man who, like Fothergill, points them out to us is certain to be a thousand times more keenly alive to the real dignity of our profession than the vulgar persons who boast so much about it and add so little to it. By mere virtue of our profession we do not rank socially with other professions. The most callow curate with his Oxford B.A., the youngest sub-lieutenant of a marching regiment or a gunboat who wears Her Majesty's uniform—"Mr. Junior" of the bar mess—by mere virtue of his cloth is taken into any drawing-room in the land. It cannot be said that this is the case with the medical man. His profession alone will not take him anywhere. He has to make his social position for himself. That he can do so and that he can hold his own with anyone is apparent everywhere. Nay, I will go further and say that no man commands more social respect than a well-bred, well-read practitioner. His education covers a great range of subjects and embraces more than that of other professions. It makes him a more entertaining and companionable friend, a more valued and respected guest. Even the querulous Pope said of us: "They are in general the most amiable companions and the best friends as well as the most learned men I know." So much the more reason, then, why our whole profession, down to the youngest graduate, should be men of such good general culture that their company should be welcomed not merely by the rich (for of these I make little account) but by all those whose well-trained minds, whose liberal ideas and whose refined manners constitute them the true society of our country.

The other day I went to pay a visit to one of my oldest and kindest medical friends. For half a century he laboured in general practice and retired some seven or eight years ago with a modest but sufficient competence. I found him, at eighty, not strong, but upright in carriage, with hearing perfect and an eye that can read the smallest print. When I came in upon him in the afternoon two or three old friends were taking tea with him, and merry grandchildren were bringing him his cup and his plate. I went with him after a while to have a chat and a cigar in his study. I knew him always as a reader, and so I was not surprised to find "Joseph Andrews" lying on the table, nor to hear him say that he was just going through Fielding again and that the oftener he read him the more he enjoyed him. We talked about friends and old times and practice and many things besides, but we got back eventually to reading and his last words were: "Not for a thousand a year would I lose my love of reading."

Gentlemen, when we come to eighty, may the evening of our days, like that of my old friend's, be made supremely happy by troops of friends and the love of good books.

# THE CHOLERA EPIDEMIC IN RUSSIA.

BY FRANK CLEMOW, M.D. EDIN. &c.

## NO. IV.—IN EUROPEAN RUSSIA.

*(Continued from p. 790.)*

FROM even the most cursory glance at the map and table which appeared with the last article of this series[1] it will be seen that the centre of intensity of the cholera epidemic was in the south-eastern corner of European Russia and the immediately adjacent provinces of the Caucasus. An almost regularly progressive diminution in the numbers attacked by the disease—in proportion to the population—may be traced from the provinces of Daghestan and the Terek (those most deeply shaded in the map) through Stavropol to Astrakhan, and thence to the territory of the Don Cossacks and to the governments bordering the Volga. In the Ukraine this lessening in intensity of the epidemic as it travelled further did not present the same degree of regularity as in the course of the disease along the Volga. Were the behaviour of the epidemic in the governments through which the Volga flows alone considered, it might be stated as a general law that the further a given district from the source of the epidemic the later was it invaded and the less was the amount of suffering and death caused by the disease. From the following table it will be seen that there was but one exception to this rule in this particular group of governments. The governments are named in the order of their geographical position from the mouth to the source of the Volga :—

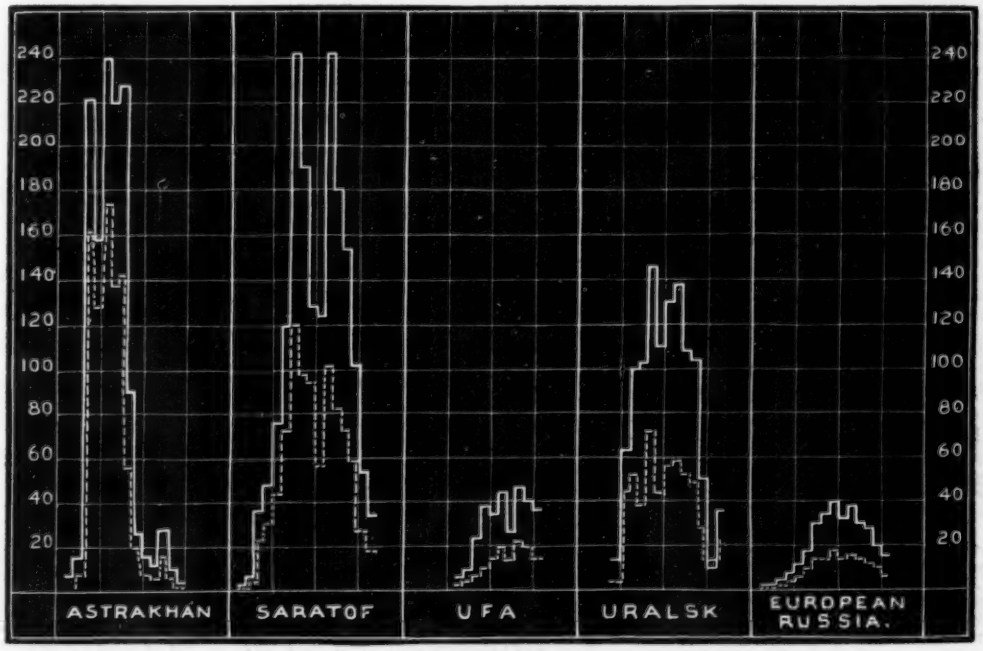
| Name of government. | Date of occurrence of first case of cholera. | Number of cases per 100,000 inhabitants. |
|---|---|---|
| Astrakhan ... ... | June 13th ..... | 2494 |
| Saratof ... ... ... | ,, 14th ..... | 1721 |
| Samara ... ... ... | ,, 23rd ..... | 1556 |
| Simbirsk ... ... ... | ,, 24th ..... | 1028 |
| Kazan ... ... ... | ,, 25th ..... | 380 |
| Nijni Novgorod ... | July 7th ..... | 280 |
| Kostroma ... ... | ,, 18th ..... | 21 |
| Yaroslavl ... ... ... | ,, 21st ..... | 104 |
| Tver ... ... ... ... | Aug. 5th ..... | 3 |

[1] THE LANCET, April 8th, 1893.

In the remaining governments of European Russia this rule was applicable only to a limited extent. In general terms it is true that, whilst the south-eastern governments suffered the most from the ravages of cholera, those in the north-west suffered the least, some escaping altogether, and that the central governments were affected to a lesser degree than the first group but to a greater degree than the last. Further, the central governments showed amongst themselves quite a distinct tendency to adhere to the law of relation between geographical position, date of invasion and intensity attained by the epidemic. At the same time, however, there were some marked exceptions. In certain governments, where presumably conditions existed favourable to the growth and diffusion of the cholera bacillus, the cholera attained much greater proportions than in others nearer to the source of the epidemic. The most striking instances of this were the Polish governments of Lublin and Siedlec, and the government of St. Petersburg. They will be seen as islets of shading in the map which accompanied the last article.

With regard to the behaviour of the epidemic in any given district, it appears that, as a rule, it took the following course. For the first few days after the appearance of the disease the cases and deaths reported were few in number. After the first week the numbers gradually increased, until the maximum was reached in the course of from four to eight weeks. The maximum was rarely maintained for more than one week and the decline was generally progressive and rather less rapid than the ascent. In many governments a slightly different course was followed. In these the "curves" representing the weekly records of cases and deaths showed, after the first unbroken ascent, a fall, followed by a second rise, in some cases to a height as great as, or even greater than, that of the first rise. This double ascent, with a temporary intermission, was noticed in the governments of Astrakhan, Voronezh, Lublin, Orenburg, Perm, Samara, Saratof, Tambof, Ufa, Kherson and Tchernigof in European Russia, and in those of Elizavetpol, Kars, Tiflis, Tomsk and Uralsk in Asiatic Russia. In the accompanying large chart I am able to reproduce the curves in four of the governments where the phenomenon in question was most marked, and the like weekly curve for the whole of European Russia, which, it will be seen, presents a distinctly noticeable double rise and intermission. The week in which the curve for European Russia reached its highest point was that between Aug. 9th

*Chart showing the Weekly Course of the Cholera Epidemic in Four Governments and in the whole of European Russia.*




The curves show the numbers of cases (clear line) and deaths (dotted line) per 100,000 inhabitants in successive weeks.

and 15th (inclusive), the second rise occurring in the week Aug. 23rd to 29th. I am not aware that any explanation has been offered of this phenomenon. It has occurred sufficiently often to demand some attention. In two governments I am able to state that the rise and fall in the epidemic intensity did not coincide with the like variations in the atmospheric temperature. In the government of Saratof the curve rose in the week July 26th to Aug. 1st. to 242 (per 100,000 inhabitants). It fell to 190, 129 and 124 in the three following weeks. The second rise then occurred and reached 242, or exactly the same height as the first rise, after which the decline was unbroken. It will be seen that the temperature curve exhibits a double rise during the period, and the parallelism of the two curves is striking; but it will also be noticed that the maxima of the two rises in temperature preceded, the first by two weeks and the second by one week, the maxima of the two rises in cholera intensity, and that the highest point of the second rise in temperature was attained exactly in the week when the intermission in cholera intensity fell to its lowest point. In a disease which develops so rapidly as cholera there is no great probability that a rise of temperature in one week would cause a renewal of activity in an epidemic in the following week. Without denying the possibility of its having had some indirect influence—e.g., through the temperature of the soil or of water—it is sufficient to point to the government of Astrakhan to prove that variation in atmospheric temperature was not the sole factor which influenced the course of the epidemic. In this government the two curves showed no tendency whatever to parallelism.

The total number of cases of cholera reported in the Russian Empire from the beginning of the epidemic to Dec. 1st was 555,010, and of these 267,880 proved fatal. Of these totals 331,077 cases and 151,626 deaths occurred in European Russia. It will be of interest to compare these figures with those furnished by former epidemics. In the year 1823 cholera first appeared on Russian soil and since that date there have been at least twenty-seven years in which the disease has been present over a more or less wide extent of the country. Its name has become a by-word of terror to the Russian peasant, and *cholera* has long been with him a favourite expletive and term of abuse. It is the modern Russian equivalent of our ancestors'—"A plague upon you." In seven of the twenty-seven epidemics the disease claimed more than 100,000 victims. The total returns of cases and deaths in each of these seven years were as follows:—

| Epidemic year. | Cases. | Deaths. | Percentage of deaths to cases. |
|---|---|---|---|
| 1831 | 466,457 | 197,069 | 42·2 |
| 1848 | 1,742,439 | 690,150 | 39·5 |
| 1853 | 249,788 | 100,083 | 40·0 |
| 1855 | 331,025 | 131,327 | 39·7 |
| 1871 | 322,711 | 124,831 | 39·0 |
| 1872 | 310,607 | 113,196 | 36·4 |
| 1892 | 331,077 | 151,626 | 45·8 |

It will be seen from these figures that, in the absolute amount of sickness and death caused by cholera, the epidemic of 1892 must be counted as the third most severe that has ever visited Russia. The totals of last year were exceeded only by those of 1831 and 1848. Unfortunately the ratios borne by the numbers of cases and deaths to the population are not available for the earlier epidemics. Were they so, it would probably be found that in each of the years 1855, 1871 and 1872 a larger proportion of the population was attacked by cholera than in 1892, as the number of inhabitants must have greatly increased since those years. The proportion of deaths to population, on the other hand, would probably be found to exceed by little, if at all, that attained by last year's epidemic, as the percentage of fatal cases in each of the three years named was markedly less than that observed last year. Indeed, if this percentage be taken as the standard, it will be found that the cholera of last year was much more fatal than that of any preceding year. The value of this comparison must, of course, rest upon the accuracy of the returns made of the numbers of cases and deaths. The figures in every case are only approximate, and the errors, particularly in the earlier records, may be considerable. It is worthy of note, however, that the tendency of the errors would be towards an under-statement of the number of cases rather than of the number of deaths (cases which died being more certain of record than those which recovered); and that therefore the percentages of fatal cases, as expressed in the table, would be rather above than below the truth. It may be asserted with confidence that in no earlier outbreak have the numbers been recorded with so near an approach to accuracy as in that of last year. The conclusion then is more than justified that the percentage of deaths to cases was greater in the recent epidemic than in any that preceded it. In other words, the cholera was more virulent and the chances of recovery in any individual case were less in 1892 than they have ever before been known to be in Russia.

The occurrence in successive years of two such widespread and death-bearing phenomena as a famine and an epidemic of cholera has naturally raised the question as to what effect, if any, the earlier event had on the later. It was not unnatural to expect that a peasantry already weakened by want of food and suffering from various gastric disorders caused by the use of improper food (such as weeds, the bark of trees &c.) would have fallen a more ready prey to the cholera virus than a population in ordinary health. The question is one of great complexity and many of the data upon which any final reply must be based are wanting. The amount of suffering caused by the famine is not an entity that can be expressed in figures. Neither the percentage yield of grain in each province on the average of previous years nor even the actual production per head of the population can be taken as a true index to the resulting distress. The amount of aid given by the Government and the assistance received from private charity are factors of obvious importance; and though the statistics of the first have been published those of the second are not, and cannot be, available with even approximate accuracy. It has therefore been necessary to ignore altogether the modifying influence of the assistance derived from both these sources. In the following table the sixteen governments in which the harvest yield of 1891 fell below the average are named, and I have endeavoured to discover, by placing in parallel columns the statistics of the harvest and those of the epidemic, whether any correspondence could be observed between the two sets of figures. For the information upon which the first column of figures is founded I am indebted to the exhaustive "Report to the Foreign Office on Russian Agriculture and the Failure of the Harvest in 1891," written by Mr. E. F. G. Law. The second column of figures is borrowed directly from the same source.

| Name of government. | Percentage of harvest yield of 1891 on average of years 1886-90 (all crops except potatoes). | Harvest yield per head of population* in pood (all crops, including potatoes). | Cases of cholera per 100,000 inhabitants. | Percentage of deaths to cases. |
|---|---|---|---|---|
| Voronezh | 24·3 | 1·61 | 804 | 50·2 |
| Kazan | 40·7 | 3·50 | 380 | 44·4 |
| Tambof | 44·6 | 9·06 | 733 | 42·7 |
| Riazan | 45·0 | 9·5 | 90 | 51·0 |
| Simbirsk | 45·8 | 7·64 | 1028 | 42·8 |
| Penza | 49·0 | 9·79 | 483 | 45·4 |
| Samara | 51·2 | 5·77 | 1556 | 43·8 |
| Saratof | 52·0 | 10·74 | 1721 | 50·3 |
| Orenburg | 52·7 | 2·79 | 746 | 51·8 |
| Kursk | 65·5 | 14·24 | 397 | 41·8 |
| Tula | 66·8 | 21·13 | 84 | 29·0 |
| Nijni Novgorod | 70·0 | 12·32 | 280 | 44·0 |
| Viatka | 70·5 | 12·81 | 343 | 45·3 |
| Orel | 70·6 | 19·14 | 72 | 41·6 |
| Ufa | 74·5 | 9·92 | 353 | 47·7 |
| Perm | 75·0 | 14·07 | 150 | 48·7 |
| 16 distressed governments | — | — | 607 | 46·3 |
| 44 remaining governments | — | — | 197 | 41·4 |

* The weight of food-grains required for each head of population for all purposes (including distillation for alcohol) is reckoned at 14½ poods. A pood is equal to 36 pounds English.

From these limited data it will be seen that the sixteen famine-stricken governments of European Russia furnished a much larger proportion of cases of cholera than the forty-four remaining governments that had not suffered from dearth; and further, that the percentage of fatal cases in the distressed governments was considerably greater than in the non-distressed ones. The number of cases per 100,000 inhabitants was higher than the average for European

Russia in eleven of the distressed governments and lower in five. The percentage of fatal cases was above the average in six of the same governments and below it in ten. But the fact that the area of greatest intensity of the epidemic coincided to some extent with the famine area is obviously not conclusive evidence that any relation of cause and effect existed between the two phenomena. It cannot escape remark that the government of Astrakhan and the Don Cossack province, neither of which had suffered from dearth, were much more severely visited by cholera than any of the famine-stricken governments; nor that the famine-stricken governments amongst themselves failed to show any correspondence between the statistics of the harvest yield and those of the epidemic (as expressed in the columns of the table). Where so many factors were undoubtedly at work in determining the intensity of the epidemic more detailed observations are necessary to discover the part played by any one in particular. Such observations were furnished to some extent in the discussions at the Conference on Cholera held in St. Petersburg last December. The majority of the speakers on this subject were unable to observe that the suffering caused by the famine had had any influence whatever on the extent or fatality of the cholera epidemic. The representatives of the governments of Saratof, Kharkof, Voronezh, Simbirsk and Kazan observed an entire want of correspondence between the intensity of the famine and that of the epidemic in the various *uyezds* (districts) into which these governments are divided. In some districts, where the famine of 1891 was particularly severely felt, there were outbreaks of typhus and typhoid fever and of scurvy, but these districts suffered even less than others from cholera. Two observers only, the representatives of the governments of Perm and Tula, had noted a correspondence between the distribution of the famine and that of the epidemic. The balance of evidence therefore points clearly to the conclusion that the weakened condition of the peasants in the famine-stricken governments did not predispose them to contract cholera. May not the further generalisation be drawn that the pre-existing state of health of a given population is a factor of little if any importance in affecting the spread or fatality of a cholera epidemic? Such a conclusion is supported by precedents both in individuals and in communities. It has frequently been observed that persons of the strongest constitutions and in possession of the soundest health have been attacked by cholera and succumbed to it as readily as their weaklier neighbours. Nay, in some instances the disease has appeared to select the stronger members of a community in preference to the weaker. Thus, in an epidemic which broke out amongst the 1st Bengal Fusiliers in 1855, it was noted that "it seemed as if the disease had laid its hands on some of the finest and best soldiers of the regiment."[2] But a more obvious parallel to the present instance is to be found in the occurrences of the years 1832–33 in Russia. In the years 1832 and 1833 the southern and central governments of European Russia were visited by a famine that had never been equalled before, nor has it since, in the fearful distress which it caused amongst the peasantry. Starvation and its attendant ills, scurvy and fevers, typhus and typhoid, carried off the population by tens and even by hundreds of thousands.[3] On June 15th, 1833, cholera appeared in the government of Voronezh and spread thence to twenty-four other governments; and yet, though the epidemic was widely spread over the area that was suffering from famine, it at no time and in no part of this area attained any great intensity. Only five governments were at all severely visited by cholera, and in none of these did the number of deaths recorded rise as high as 100 per 100,000 inhabitants. In the whole course of this epidemic there were reported only 14,428 cases and 5330 deaths. The proportion of deaths to cases was thus rather less than 37 per cent.

### THE DISTRIBUTION OF THE EPIDEMIC.

The experience of last year's epidemic has added a large body of evidence to that furnished by earlier outbreaks upon which conclusions may be founded as to the means by which cholera is spread from one district to another. In tracing the disease from its first introduction across the Persian frontier throughout the Russian Empire it has, I think, been clearly shown that cholera followed the main lines of human communication; and that where these lines coincided with a great river—such as the Volga—the spread of the disease was much more rapid than where communication was mainly by railways. These were the conclusions to be drawn from the behaviour of the epidemic viewed as a whole. The object of the present article is to bring together evidence as to its behaviour in individual cases. The evidence has been collected from various sources, but principally from the discussions at the Conference on Cholera held in St. Petersburg last December, and from the medical and lay press at the time of the epidemic. In almost every instance that has been recorded where the means by which the infection was carried was known the course of events was somewhat as follows. A person coming from an infected district to one that had hitherto been free from the disease sickened with cholera soon after his arrival. The earliest subsequent cases in the town or village occurred amongst members of the household of the first patient, amongst persons who had been in contact with the first patient or with articles soiled by him, or amongst persons who had drunk water from sources polluted, directly or indirectly, by the dejecta of the first patient. I may be pardoned for giving in some detail the following instructive histories.

In the village of Ulybyshef (Vladimir government) a labourer arrived on June 29th from Kazan, where he had attended the funeral of his brother, who had died from cholera. Three days later he sickened with the disease in the morning and died in the same evening. The clothes he had worn remained in an outbuilding for a week. They were then washed in a stream from which the village drew its water-supply. In a very short time cholera became epidemic throughout the village. In the government of Viatka five villages situated along the banks of the same stream were invaded by cholera. The infection was traced to the systematic washing of linen belonging to the early cases in the stream which provided the inhabitants of all the five villages with their drinking water. No sooner was this practice forbidden than the epidemic began to abate. In the village of Upper Moulla (Perm government) an exactly similar relation of cause and effect was recorded. The linen of cholera patients was washed in a pond. From the same pond the inhabitants drew their supply of drinking water, with the result that cholera raged throughout the village. As in the last instance, as soon as the washing of linen in the pond was put a stop to, the number of cases of cholera in the village began to diminish. In the village of Borki (Samara government), lying on the River Samarka, the first case of cholera was that of a woman. After a short interval a peasant was seized with cholera upon a barque lying at anchor a short distance further down the river. The disease then became epidemic solely amongst that portion of the population which drew its drinking water from the river. The remaining inhabitants, who drank water obtained from wells, remained free from the disease with but one or two exceptions. In Great Bereznikof, a village in the Simbirsk government, an exactly parallel instance was recorded. Cholera attacked only that part of the village which drew its water-supply from the river Kshi, whilst amongst the inhabitants of the other half of the village, whose drinking water was derived from wells, there was but a single case—that of a beggar woman to whom had been given some clothes from an infected house. In two villages in the Tambof government, in each of which a dual water-supply existed, it was observed, in like manner, that cholera was confined to one portion of the inhabitants. In each instance it was found that this portion of the inhabitants drew its water-supply from a pond contaminated through the washing of linen of cholera patients. The rest of the village, supplied with well water not so contaminated, did not furnish a single case of cholera. The part played by water in the diffusion of cholera was clearly illustrated at the beginning of the epidemic in St. Petersburg. It was found that the earliest cases were confined to the workmen in the large factories situated on the banks of that branch of the Neva known as the Great Nevka. The workmen were accustomed to drink water derived directly, without filtration or boiling, from this branch of the river—water which at all times is charged with much organic matter (14 parts in 100,000), and which produces gastro-intestinal catarrh in all persons unaccustomed to its use. It was at once arranged that water should be supplied to the workmen from the town waterworks and that this water should be filtered or boiled before drinking. The effect of the change in the water-supply was immediate, and there was no further spread of cholera in that part of the city. Another instructive case was furnished by one of the St. Petersburg prisons. A prisoner who had been in solitary confinement for more than a month was suddenly seized with all the

[2] Macnamara: A History of Asiatic Cholera.

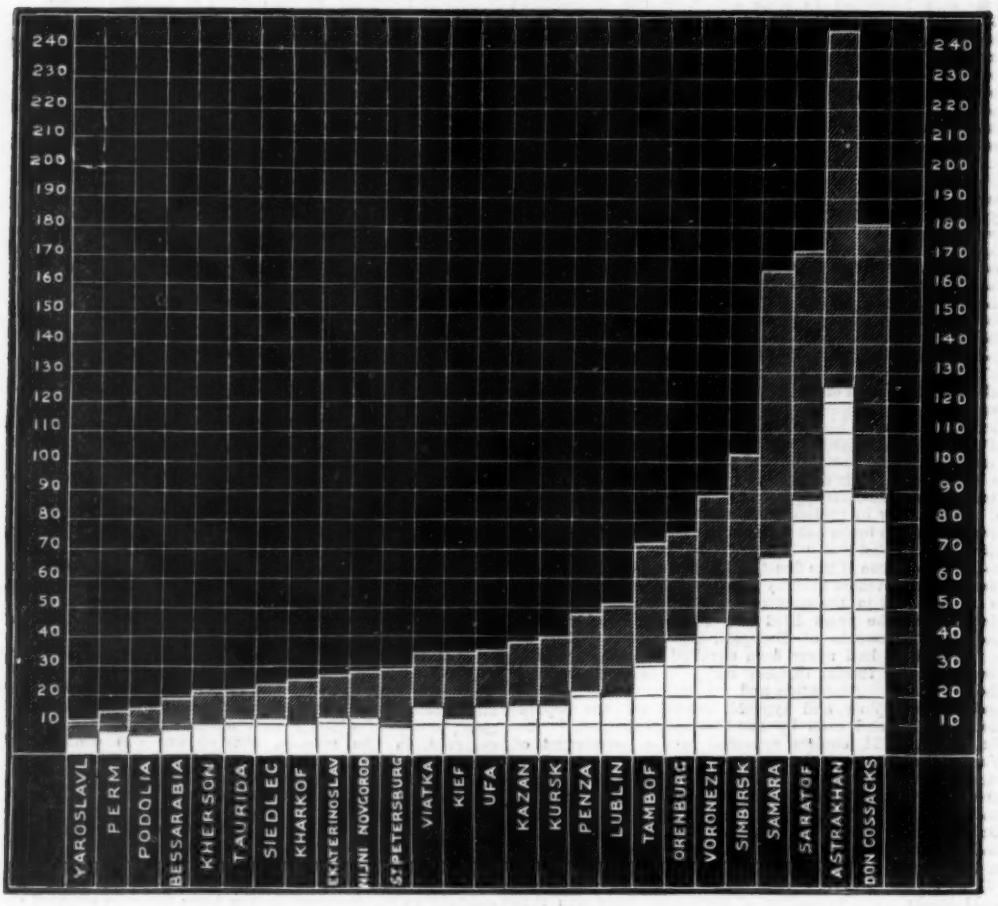
[3] In 1833 the expected natural increase of the population of Russia fell short by 415,000.

symptoms of cholera. Bacteriological and post-mortem evidence confirmed the diagnosis. All the prisoners were supplied with boiled water, and for a time the source of infection remained an enigma, which was only solved by the discovery that the deceased had drunk a quantity of unboiled water provided him for washing purposes. Steps were immediately taken to furnish all the other prisoners with boiled water for whatever purpose required.

In every case cited hitherto water was the direct means of spreading the cholera infection. In another group of instances the same part was played by fomites. In Djigauri (Tiflis government) a woman arrived on July 9th from Tiflis, where she had lost a daughter from cholera. On the following day she asked her neighbours to help her to put her effects into a waggon. These had been brought from Tiflis without disinfection. Five of the persons who assisted her were seized suddenly on the same day with cholera. In the village of Petropolis (Kharkof government) a woman returned on July 31st from an infected district, where she had lost a child from cholera. She brought with her the soiled clothes and linen of the deceased. On Aug. 1st a woman who had helped her in her housework sickened with all the symptoms of cholera, and from that date the disease spread rapidly throughout the village. A case in the Voronezh government is of particular interest. On July 25th two peasants from Rostof-on-Don, where cholera had prevailed for nearly a month, came to the house of a peasant named S—— in the village of Egorovka in order to pay him a debt. The coins were held by S—— *in his mouth* for a considerable time. The three men then drank to excess of *vodka* and ate a quantity of *kolbasa* (a variety of German sausage) which had been brought from Rostof. On the following day S—— died from cholera. Five members of his family also succumbed to the disease. A peasant who not only read prayers over the body of S——, but also drank freely of the remaining *vodka*, was the next victim. The epidemic spread amongst the relatives and friends of this peasant, and in the village of Egorovka alone there were 175 cases and 70 deaths from cholera. In the village of Molokhovo (Nijni Novgorod government) two women were occupied on Aug. 8th in digging potatoes in a kitchen garden. In the same garden the dejecta of a cholera patient had been buried. On Aug. 9th both women sickened with cholera and died. In many other cases no mention is made of water or fomites as the medium of infection, but cholera spread in the first instance amongst the relatives of, or amongst persons immediately surrounding, the first patient.

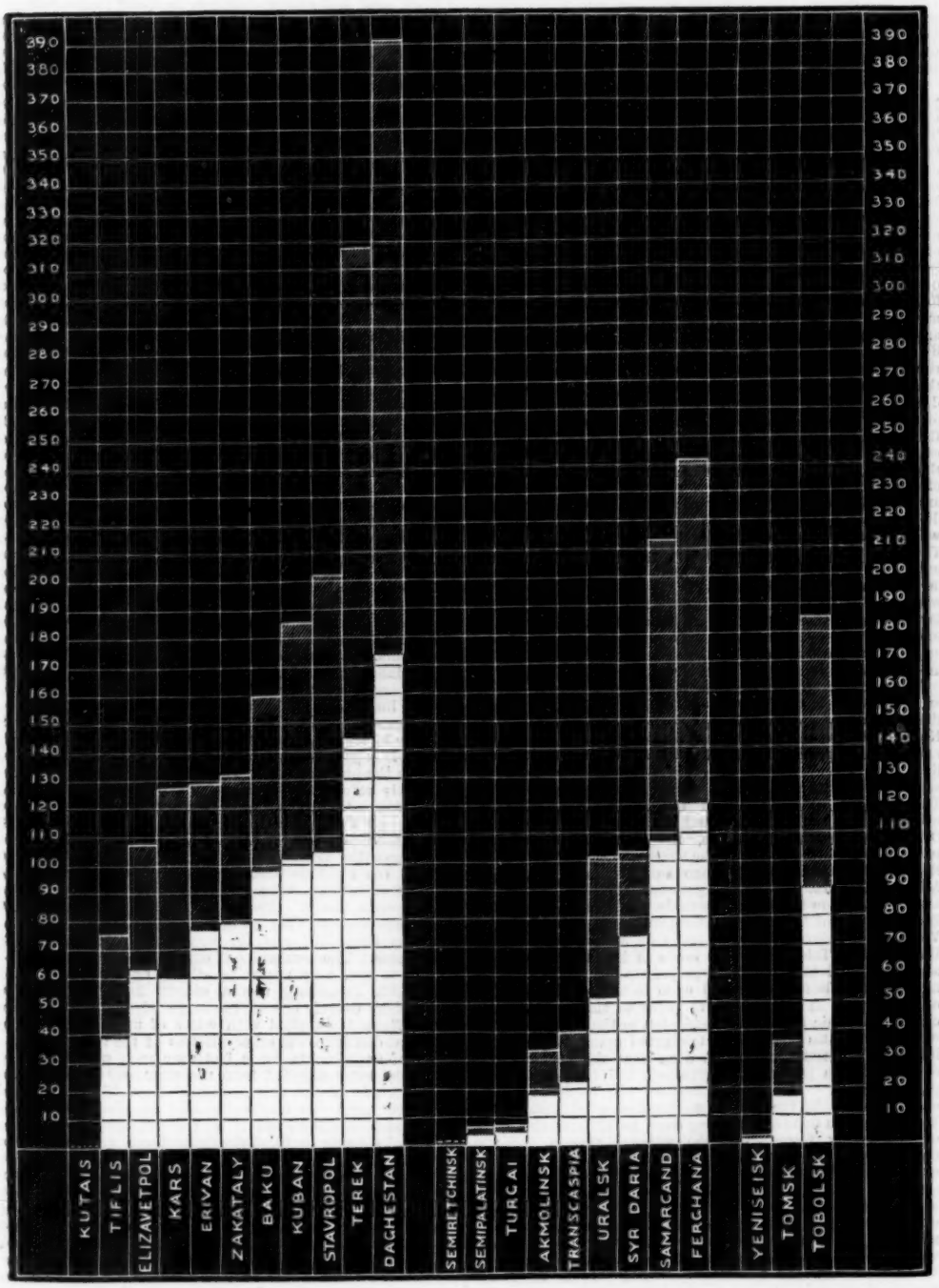
Finally, in some districts the earliest cases of cholera occurred amongst persons who had not been exposed, so far as could be discovered, to any obvious source of infection. The town of Astrakhan is an instance in point. The telegrams of the time to the Russian newspapers asserted that the town remained free from cholera until June 18th, although cases had occurred as early as June 13th upon boats coming from Baku and remaining in quarantine in the roads at a considerable distance from the town. It appears, however, from a brief pamphlet issued by Dr. Erimieief, the director of the cholera bureau at Astrakhan, that as early as June 14th a local resident was seized with all the symptoms of true Asiatic cholera, that on the 15th a second case

CHOLERA IN RUSSIA.




White spaces—Deaths. Shaded spaces—Cases.

## CHOLERA IN RUSSIA




White spaces—Deaths. Shaded spaces—Cases.

occurred, and that neither of these persons had had any communication, direct or indirect, with any certain or suspicious case of cholera. Such instances are, however, few in number, and careful investigation would doubtless diminish them still further, even if it did not discover in every case some source of infection that had been overlooked. The evidence is, indeed, overwhelming that cholera does not originate *de novo*, but that every case of the disease is the result, directly or indirectly, of some pre-existing case.

It remains to consider the relative distribution of last year's epidemic in Russia, and to endeavour to account, if possible, for its intensity in one place and its mildness in another. The extraordinary ravages which the disease wrought in the south and east and the comparative immunity of the north and west cannot be explained alone by geographical or meteorological differences, by differences in the mode of life and social and religious customs of the inhabitants, by differences in the activity of the measures taken to meet the epidemic, or by a difference in the virulence of the cholera poison. Each and all of these were doubtless factors in determining the amount of suffering and death due to cholera in any given district, but the exact influence exerted by any one of them cannot of course be measured. It would be beyond the scope of the present articles to attempt to decipher in full the part played by either geographical or meteorological conditions in the spread of cholera; but it is at least a striking fact that the two provinces which suffered most from the epidemic, those of Astrakhan and the Don Cossacks, are two of the flattest and most low-lying provinces in European Russia. Further, the government of Astrakhan lies at the estuary of the Volga, which drains by countless mouths into the Caspian Sea. Many parts of the government and even of the town are actually below the level of the river, and are annually inundated by its overflow. Here, then, are conditions known to be favourable to the diffusion of cholera, whether Professor von Pettenkofer's theory be accepted or not. The effect which the weather has upon a cholera epidemic is not fully known, but that heat tends to favour its development is a well-established fact. It cannot be altogether without significance that the disease was much more active in the warm southern governments than in the cooler northern ones, or that in those governments where the epidemic only appeared towards the end of the summer it obtained hardly any hold whatever.

Much might be written upon the mode of life and social and religious customs of the inhabitants of Russia and the part which they bore in fostering the cholera epidemic. Not a little has already been written upon this subject, and the insanitary condition in which the Russian peasant lives has been painted in colours sufficiently vivid to satisfy even the most Gargantuan appetite for sensation. The hygienic surroundings of the moujik are, however, neither so bad as they are painted nor so bad as those of his Oriental brethren, the Tartars, Kirghiz and other Asiatic tribes who find their home in the south and east of European Russia. In Astrakhan more than half of the population is Asiatic. All that part of the government which lies to the east of the Volga is occupied entirely by the so-called Inner Bukeëf Horde of Kirghiz. In the governments lying on the Volga the population is largely made up of Tartars, Kirghiz, Bashkirs and Tchuvash. The mode of life, the absence of sanitation and the religious prejudices of Mohammedan nomads have been commented upon in the earlier articles of this series. It suffices here to point to the fact that the cholera epidemic was most severely felt in those governments where the Asiatic element predominated amongst the population. It is not intended to deny that the surroundings of the Russian peasant are extremely bad from a sanitary point of view. The fact is admitted and deplored by no one more than by the central authorities in St. Petersburg. Much has been done and is being done to improve the state of the larger towns, but the villages remain for the most part in a very primitive condition and exhibit an almost complete indifference to the need that exists for sweeping measures of sanitation. They are inhabited by an uneducated peasantry, who are entrusted to a very great extent with the management of their own affairs, so that it need not cause surprise that the laws of hygiene and prevention of disease are simply unknown amongst them, and, being unknown are universally broken. It is upon the spread of education that hope for future sanitary reform in the Russian village must rest. The terrible mortality from gastro-intestinal catarrh alluded to when writing of the Caucasus may be taken as an index of the insanitary condition in which the Russian peasant lives. The causes of it are not far to seek. The food which he eats may have something to do with it. The staple of the diet is rye bread. It is black, acid and causes diarrhœa in many people who are not used to it. Soup made of fermented cabbage, dried fish, meat in no great quantity, salted herring, raw cucumbers and melons, with *vodka* and *kvass* for drink, complete the diet. *Vodka* is a colourless spirit distilled from rye. *Kvass* is made from the fermentation of black bread; it is frequently adulterated. The fact that many cases of cholera in St. Petersburg last summer were traced to the use of this drink led the authorities to make an investigation into the quality of the *kvass* ordinarily sold in the public-houses. Ten samples were sent to the public analyst, who reported that every one of the ten was unfit for human use. In the sediment found in each bottle was discovered a mass of lower organisms—infusoria, dust, fragments of rag and small stones. One sample was found to swarm with the "flour tick" (*acarus farinæ*). In some of the samples were found small shot that had been used for cleaning the bottles. If such be the condition of the *kvass* consumed in the capital it is scarcely likely that that taken in the villages is better. Of even greater import in the production of gastro-intestinal catarrh, however, is the quality of the water-supply in the villages and country districts. It is condemned in round terms in the annual report of the Medical Department in a majority of the governments throughout the empire. The water is derived from rivers, springs or shallow wells. The ease with which these may be polluted has been seen in the instances already quoted, in which cholera was spread through the washing of linen in water which was afterwards swallowed by the villagers. There are numerous other sources of pollution which need not be enumerated here. The bearing of these facts upon the spread of cholera is obvious, but I may be permitted to give one or two instances where the bad water-supply (apart from any specific infection) and prevalence of gastro-intestinal catarrh were associated with a severe visitation of cholera. The town of Astrakhan was a most striking instance. The water-supply is worse, gastro-intestinal catarrh is (with a single exception) more prevalent, and the cholera epidemic was more severe in Astrakhan than in any other town in Russia. A few figures will prove these statements. Dr. Erimieief states that the water distributed to the inhabitants of Astrakhan contains in solution 17·3 parts of orgainic matter in 100,000, more than four times the highest limit compatible with fitness for use. If, further, the suspended matters be taken into account the water is found to be seven times more polluted than the worst potable water. It is passed through filter beds, but actually becomes fouler in the process than it was before, and the inhabitants frequently refuse to use the water from the waterworks, preferring to take their supply direct from the river or from springs. Of the total annual deaths in Astrakhan one-third, and sometimes more, is due to gastro-intestinal catarrh. This proportion is only exceeded in the town of Saratof. Finally, the absolute and relative numbers of cases and deaths from cholera were higher in Astrakhan than in any other town in Russia. Amongst a population of only 95,000 there were recorded 4798 cases and 3160 deaths. The case-rate was thus 5050 and the death-rate 3326 per 100,000 inhabitants. The percentage of deaths to cases was 65·86—that is to say, very nearly two-thirds of the cases proved fatal. St. Petersburg was a second instance in point. Vassiliefsky Ostrof, one of the large islands at the mouth of the Neva, is supplied with water of much worse quality than that distributed to other quarters of the town. From a series of experiments made last autumn it was found that whilst the water supplied from the municipal waterworks to the south side of the city contained from 48 to 330 micro-organisms per cubic centimetre, that supplied to the island contained from 939 to 9091. Of the distribution of gastro-intestinal catarrh in St. Petersburg I am unable to give statistics; but the distribution of the cholera epidemic was most instructive. The island contains 9·3 per cent. of the total population of St. Petersburg, but it furnished 21·4 per cent. of the total number of deaths recorded in the capital. It may be stated in passing that the total number of cases of cholera recorded in St. Petersburg to the end of the epidemic on Dec. 11th was 4391 and of deaths 1357, giving the comparatively low death-rate of 30·9 per cent. The association of a bad water-supply and a severe outbreak of cholera was noted in Warsaw, in Voronezh, in the Crimea and in many other parts of Russia.

Only the briefest reference must be made here to the influence which the measures taken to meet the epidemic had upon its distribution. That they had some share in controlling the later course of the epidemic must, I think, be admitted. The governments of the south and east were taken in an almost totally unprepared condition, whilst those further removed from the source of the epidemic had time to marshal their forces and to meet the danger with something like adequate measures. The part played by panic, as a result of unreadiness to meet the disease, will probably never be fully known. An Eastern legend says that God ordered the cholera to carry off 500 victims: in the end 3000 died. Five-sixths died from fear. The moral of this apologue was never better illustrated than in last year's epidemic. Panic was the direct means of introducing the infection into European Russia by the crowds flying from Baku and the Caucasus, and panic was one of the most powerful agents in distributing it throughout Astrakhan, and thence up the Volga and throughout the country. The terrible riots in Astrakhan, Saratof, Khvalynsk and other places, and the reign of terror which followed in each case, spread the disease not only directly by the removal of patients from the hospitals, leaving them to die in the streets or to creep back to their homes if they were able, but also indirectly by paralysing the authorities and by rendering it impossible to carry out even the most simple measures to check the epidemic. The disastrous effects of the riots in Astrakhan, at the very outset of the epidemic in Europe (they broke out on June 21st), at the very moment when the most energetic action was demanded, can scarcely be overrated. For five days panic was absolute. It will never be known how many people were attacked with cholera during that period. All that is known is that in those five days at least 316 persons died from the disease in Astrakhan, and that when order was restored cholera had spread far beyond the control of any measures that could be taken there.

Finally, one word may be said as to the possibility of an alteration in the virulence of the cholera poison having had some share in affecting the intensity of the epidemic as it travelled further. For the present this must obviously remain a matter of speculation.

## A PROTEST AGAINST THE PREMATURE ADMINISTRATION OF MERCURY IN SYPHILIS.

BY J. ERNEST LANE, F.R.C.S. ENG.,
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I PROPOSE in this communication to touch upon only one point in that vast subject, the treatment of syphilis—viz., the time when antisyphilitic treatment by mercury should be commenced. In his lectures on Syphilis reported in THE LANCET of Jan. 17th and 31st, 1874, Mr. Jonathan Hutchinson arrived at the following conclusions (I quote only those which are relevant to the matter under consideration): "That it is impossible to begin the administration of mercury too soon and that it should be resorted to without loss of time in all cases in which a chancre shows a tendency to indurate; that many cases of indurated chancre treated early by mercury never show any of the characteristic symptoms of the secondary stage; that in other cases of mercurial cure of the chancre, in which yet secondary symptoms do occur, they are usually milder than if allowed to develop without specific treatment; that it is probable that the risk of tertiary symptoms is in ratio with the severity and prolonged duration of the secondary stage." Though these opinions were pronounced nearly twenty years ago, I am not aware that they have been in any way modified since, and I see that they are quoted in the last edition of Ringer's "Handbook of Therapeutics." They also coincide with the views of my late lamented colleague Mr. Berkeley Hill, who in his classical work on Syphilis, in conjunction with Mr. Arthur Cooper, wrote: "When the induration of the initial lesion renders the diagnosis that of syphilis, the question of treatment for the general disease must be considered. In England the most general plan is to administer specifics at once." It is undoubtedly a fact that in this country there is a habit of giving mercury in every case of indurated sore that comes under notice, and the propriety of the treatment has never to my knowledge been seriously questioned; but foreign authorities are by no means unanimous on this point, and I venture to put forward some arguments in favour of postponing the commencement of mercurial treatment till a somewhat later date. When the diagnosis of syphilis is made one is told at once to begin mercury; nay, further, one is advised to do so directly a chancre shows a *tendency* to indurate. But it is not always easy to make a confident diagnosis, and in a considerable number of cases it is impossible from the appearance of the sore to pronounce as to its nature. Induration may be present, but may be simply inflammatory in nature and due to the application of irritating substances; such a sore, if left without any treatment save by local applications, might heal up and be followed by no further symptoms; it would turn out to be a local sore in which some induration accidentally existed. It is very easy to understand that if, in such a case, relying upon the induration present, mercury had been administered none of the characteristic signs of secondary syphilis would have manifested themselves, and I think it very probable that many of the cases quoted, of syphilis having been aborted by early mercurial treatment, have not been cases of syphilis at all, but of local chancres irritated and rendered indurated by the injudicious application of caustics. On this account I consider it much more satisfactory both for the patient and for the surgeon to postpone the administration of mercury until the diagnosis is rendered incontestable by the appearance of some of the secondary sequelæ; nor do I think that the patient's chances of an eventual cure are thereby prejudiced; on the contrary, I believe them to be improved.

I quite agree with Mr. Hutchinson that when mercury is administered early it exhibits a remarkable power of delaying the secondary manifestations; the question is, is the patient any the better for this delay? My experience is that, though the sequelæ are postponed for a time, when they do eventually appear, as they inevitably will, they are of a chronic form and are by no means amenable to treatment. It has been pointed out by competent observers that the patients to whom mercury has been prematurely administered are prone to obstinate affections of the mucous membranes and of the iris in place of the secondary cutaneous manifestations, which are far more amenable to treatment, and that they are liable at a later date to develop symptoms of cerebral syphilis. I do not consider it conclusively proven that the risk of the supervention of tertiary symptoms is in proportion to the severity and prolonged duration of the secondary stage; on the contrary, I have seen several cases which would lead me to hold quite the opposite view. Mr. Berkeley Hill observed that a scanty development of the early syphilides was common in patients who afterwards became afflicted with grave tertiary lesions; this is also borne out by the experience of eminent French authorities and, if it is so, would be an argument against any attempts to abort or to shorten the secondary stage; for I take it that the main object to be kept in view in the treatment of syphilis is to prevent the supervention of tertiary symptoms. I would, then, advocate that mercury should be withheld until the appearance of a roseola or some other secondary lesion, upon which the drug should be promptly and efficiently administered, preferably by inunctions. I have adopted this method of treatment for some time past and am satisfied that my results are better now than when I followed the usual custom of commencing mercurials whenever induration was present in a chancre.

Queen Anne-street, W.

## THE TREATMENT OF CONSTITUTIONAL SYPHILIS BY EXTERNAL METHODS OF ADMINISTRATION OF MERCURY.

BY J. A. SHAW-MACKENZIE, M.B. LOND., M.R.C.S.,
PATHOLOGIST TO THE CHELSEA HOSPITAL FOR WOMEN AND LATE REGISTRAR TO THE VICTORIA CHILDREN'S HOSPITAL.

THE article on the "Treatment of Tertiary Syphilis by Inunction" by Mr. Campbell Williams in THE LANCET of April 22nd urges me to offer my testimony to the value of the treatment as therein stated in certain cases, and not only in the tertiary forms. It was my good fortune to have been dresser at University College Hospital to the late Mr. Berkeley Hill in 1880 and to have received my first lessons in the treatment of syphilis from him, and I am ever grateful for his held

and many kindnesses then and later; but I must admit that the chief method of treatment I then learned was mercury in some shape or form internally, with or without large doses of iodides. I am all the more glad to see Mr. Campbell Williams' testimony to Mr. Berkeley Hill's belief in a form of treatment I have learned to value in no small measure, for it has been my privilege during the last nine years to have seen the details of treatment of constitutional syphilis in the private practice of Mr. Henry Lee, whose methods are in the main confined to the external administration of mercury either by calomel fumigation or inunction as opposed to the internal administration of mercury and iodides. It is by Mr. Henry Lee's kind permission that I am enabled to offer this communication on the subject. His method of inunction is similar to that described by Mr. Campbell Williams and is founded on the method adopted by Pearson and Brodie. It is generally found, however, that it is simpler and equally efficacious for patients to rub the ointment in themselves; and though, of course, there are many who prefer to have it done for them there are others who prefer to keep their trouble in every way to themselves. It is usual to advise a drachm of the mercurial ointment to be rubbed into the inner part of either thigh every day for about twenty minutes, to wear the same pair of drawers for two or three weeks, or simply to place the ointment on a flannel bandage and tie under the armpit or elsewhere. This method is efficacious, but dirty, and I therefore incline to the employment of the oleate of mercury of 20 per cent. strength, of which fifteen grains are sufficient for an inunction dose. The oleate, however, is much more powerful and penetrating than the blue ointment; it irritates the skin and requires careful watching that the patient is not too severely brought under the influence of the drug. It has, however, the advantage of cleanliness and, when desired, of rapid action; and one or two rubbings a week are sufficient to keep a patient gently under the action of the drug, which should be kept up for two or three months, till the symptoms have disappeared. The other method of external treatment is calomel fumigation. It is not unknown to the profession, but partly because its details are not sufficiently understood, partly because it is a trouble to the patient and to the medical man alike, it has not come into general use, its benefits are unknown, and the method has not received the justice it deserves, whilst the results it gives are open to any patient or medical man who will conscientiously and faithfully carry out its details. This method I owe entirely to Mr. Henry Lee, who has perfected it in the last few years. I do not know whether the type of constitutional syphilis is not so grave as it used to be, or whether the richer classes have it more in their power to battle with the disease, or whether the good results that I have seen are to be put down entirely to this method of treatment; but I can say that after nine years' experience of it I trust to this method before any other, and I am only surprised that its merits have not been recognised more generally. Mr. Lee's method is as follows: The patient is surrounded by a cloak, or, better still, sits in a box with only the head exposed to the air. A spirit lamp (over which a china receptacle holding a little water and the calomel powder separately is arranged) is placed under the seat or between the patient's legs. The wick being lighted, the calomel is sublimed and with aqueous vapour is deposited on the patient's skin, after which the patient goes to bed, still in his cloak, or remains for an hour surrounded by a blanket. It is usual to begin with a drachm and a half of purified calomel and go up to two drachms, or reduce to one drachm as necessary. The patient is advised to remain indoors as much as possible, is seen once a week, and from a six weeks' to a three months' course is generally necessary, the gums being watched and the amount of calomel regulated by the effect produced. There should be no intermission of the daily or nightly bath when the course has commenced, till all symptoms have subsided, when intermission may be gradually begun. The morning tepid bath need not be given up. It is important that the calomel should be thoroughly pure and the receptacle it sublimes from of china and not metal. With these precautions the fumes are not unpleasant—indeed, in many cases it is desirable that they should, with limitation, be inhaled. Often, however, it is impossible for a patient to give up the time to this method, or it is imperative that business be attended to, or travelling undertaken, or secrecy has to be considered; and if there is anything to interfere with the regular course of the bath it is better to advise a course of inunction instead, which under the circumstances I invariably do; but I do so reluctantly, for I am convinced that in the calomel bath exists a method of treatment which surpasses all others in the results it gives. It is applicable to every stage of syphilis both in men and women. I say women, for women are far more often victims of this disease than is generally supposed. Both in private practice and in the out-patient departments of the hospitals one constantly sees cases of primary disease in women who have contracted it from their husbands imperfectly cured, and who exhibit the same type of manifestations and lesions as men. Under the bath primary sores of typical induration soften and heal, secondary rashes are often absent and, if present, slight, whilst the secondary throat affection is usually gone in three months' time. Later secondary symptoms are rare and I have been struck by the very few cases of tertiary syphilis I have seen in patients returning at from two to thirty years after a primary course of this method of treatment either to report themselves, or for the superficial lesions then present. I am sure too that secondary and tertiary cases being treated for the first time, particularly skin eruptions, aching bones and muscles, enlarged glands, sore tongues and bad throats, do improve under the bath, but they are rather more difficult to influence after a previous course of mercury internally. In the out-patient room and in private practice I have often noticed how patients who have been treated by the usual mercury and iodides internally, and whose state after a certain stage seemed to be stationary, at once began to improve if placed on the bath or inunction treatment, and I have a confidence in the external methods of treatment which the internal do not give me. It is on the authority of Mr. Henry Lee that I say that the treatment of syphilis by small repeated doses of mercury internally was tried and given up by the late Mr. Briggs at the Lock Hospital; and I would submit that the advantages of the external or bath treatment are: (1) The satisfactory and safe way in which the effects of mercury may be induced and regulated; (2) the certainty of a successful result, with practical immunity from further and later serious manifestations; (3) no appreciable interference with general health or digestion (the most debilitated may take the baths and the debility of tertiary disease or phthisis does not contra-indicate them)—I have seen albuminuria and glycosuria in syphilitic subjects entirely disappear, and I have known a woman bear a full-term child who repeatedly aborted before her husband was put on a course of the baths; (4) shortening of the term of treatment; (5) the benefit of local fumigation to irritable sores and ulcers. As to general treatment I have little to add to that advocated by Mr. Campbell Williams. Avoidance of green foods or anything that may tend to diarrhœa is desirable. Avoidance of cold and wet is important, and of far more importance still is avoidance of spirits and irregular habits. Everything that promotes the general health is of service in the treatment of the convalescent syphilitic. Sea air and sea voyages may be recommended with advantage and a generous diet in all cases, with light wines, whilst living out of town or in the N.W. districts of London is to be recommended. As regards iodides I have long given them up except in small doses of from 2½ to 5 grains, chiefly to help the action of mercury or iron. Large doses only depress when stimulation is indicated and, whilst undoubtedly removing symptoms temporarily, do not, as far as I know, cure. The usual tonics of iron, bark and strychnine are useful in promoting the general health. The fresh decoction of sarsaparilla in daily doses of a pint or the 5-grain pill of iodide of iron night and morning find favour with Mr. Henry Lee after a course of the baths. The usual gargles and mouth washes of alum and chlorate of potash with myrrh are useful, but it is unusual to see increased salivation with the baths, for it is not necessary to go beyond getting the gums tender, and it is easy to keep them so. I have had one or two cases of diarrhœa which subsided on reducing the amount of calomel and correcting any error of diet. After all, the lesson that Aix-la-Chapelle teaches is the systematic external treatment of the disease by mercury in such a way as not to affect the general health further. Irregular courses do not cure, nor do baths or frictions if details are not followed. Patients should be urged, whatever treatment is decided on, to persevere with it systematically. What are a few weeks or months of trouble to a possible lifetime of recurring symptoms and dread? If needs be, a second course of treatment should be taken before the end of a year, and in later years, whether it seems necessary or not, it is a safe plan to have another course, for the bath can do no harm to the general health and may be the means of for ever keeping in check the manifestations of syphilis.

Savile row, W

## MUCOCELE OF THE FRONTAL SINUS.[1]

BY W. SPENCER WATSON, M.B. LOND., F.R.C.S. ENG.

A WOMAN aged twenty-five, a black-borderer of envelopes by trade, applied for treatment at the Royal Eye Hospital, Southwark, on Jan. 2nd, 1893, when she complained of swelling in connexion with the left eye, great pain in the eyebrow and frontal region, and double vision. There was a brawny swelling of the left upper eyelid, with redness and tenderness, especially marked just below the inner extremity of the supra-orbital margin. There was marked proptosis of the left eyeball, which was displaced in a downward and outward direction and restricted in movement upwards and inwards, and there was crossed diplopia. The free escape of tears by the lacrymal passages was not impeded. The ocular and palpebral conjunctivæ were injected, and the left pupil was sluggish compared with the right; but the tension of the left eye was normal, and nothing abnormal was noted in connexion with the fundus. There was one nebula on the left cornea and there were two on the right, being the remains of ulcers which she had when eleven years old. The left preauricular gland was enlarged and tender, as was also a gland at the angle of the lower jaw on the left side. The patient was anæmic and strumous-looking and had suffered from occasional enlargement of the submaxillary lymphatic glands. She had been attending the out-patient department of a general hospital since last October for anæmia and dyspepsia; with the exception of these and an attack of erysipelas of the right side of the face two years ago, she had enjoyed good health since childhood. The history which she gave of her present trouble was to the effect that she had an attack of erysipelas of the left side of the face three weeks previously, which, lasting about ten days, left the upper lid still swollen and painful. She did not remember having had any injury, and her family history was unimportant. The treatment adopted consisted in the application of frequently renewed hot boracic fomentations and the administration of quinine and iron. The patient was placed on a liberal diet and the bowels were kept well open. On Jan. 9th the proptosis was less marked, the outward displacement of the eyeball had disappeared, and the diplopia had gone, although the left cornea was at a decidedly lower level than the right. The swelling of the upper eyelid was much less and the tenderness diminished, the lymphatic glands were also less swollen and tender, and she had very little pain except when she tried to look well upwards, in which direction, as well as inwards, movement was a little restricted. It was noticed on this day that she had what seemed to be an ordinary coryza, which continued until the 18th, when she had an unusual, thin, slightly yellowish discharge from the left nostril, which was offensive to her, but not markedly so to others. There was enough discharge on that day to thoroughly soil one pocket-handkerchief. It continued, although less in amount, on the next day, and at intervals on the following two days. The nasal cavity was examined from the front by means of the nasal speculum, and it was noted that there was some polypoid enlargement of the upper and middle turbinals of the left side. It was noticeable that the alæ of the nose were remarkably flattened towards the septum and gave the aperture of the nostrils a slit-like aspect. There was nothing in the history to account for this, and the breath channels were quite unimpeded and the breathing free. The left nostril was ordered to be washed out with boracic lotion (four grains to the fluid ounce). On the 21st the proptosis had disappeared, the left cornea was a trifle lower than the right, the swelling and tenderness of the upper eyelid were very slight and those of the lymphatic glands had gone. The fomentations were discontinued and a dry warm pad of wool was kept applied. The temperature, which had previously ranged from between 99° and 100°, did not rise after this above 99°. On the 24th she was discharged to attend as an out-patient. The left eye was then not at all displaced, nor were its movements impaired. It gave her pain to look upwards and she had slight tenderness beneath the inner extremity of the supra-orbital margin.

*Remarks.*—Cases of enlargement of the frontal sinus from any cause rarely terminate so favourably as the case narrated and are too often accompanied by severe febrile disturbance, with formation of pus and bone mischief. In the above case resolution occurred before the formation of pus. An improved condition of the patient's surroundings and rest in bed gave her an opportunity of recovery, which was impossible for her whilst at her work or even at home. It is a case that encourages the employment of the expectant plan of treatment before resorting to surgical measures, as well as attention to the conditions of the temperature and pulse.

Henrietta-street, W.

[1] The notes of the case were taken by Mr. L. Vernon Cargill, F.R.C.S. Eng., house surgeon and registrar.

## A CASE OF PERITONITIS FROM PERFORATION OF THE VERMIFORM APPENDIX BY A FÆCAL CONCRETION; DEATH FROM HÆMORRHAGE.

BY OSMUND STEDMAN, M.D., B.S. LOND.

THE patient was a male, aged eighteen, who had always been healthy till his late illness; his occupation was that of a footman. His mother has a large goitre; his father is alive and well. One sister died of "ulceration of the bowels," about which no definite history could be obtained; his father's brother died of phthisis. The patient was quite well till the morning of Aug. 23rd, 1892, when he felt a pain across the lower part of the abdomen; he continued his duties during the morning, although he vomited several times, and he remained up during the day, but not at work. The following day, the pain and vomiting continuing, the patient remained in bed till the evening, when he dressed and sat up The bowels had acted on Aug. 22nd; on the afternoon of the 23rd there was a slight action, and only a small quantity of fluid was passed.

Aug. 25th.—The patient was seen by me for the first time to-day. He is a well-developed lad of dark, scrofulous type. He lies on his back, the legs are extended, and he complains of pain across the lower part of the abdomen; he has vomited five or six times during the last twenty-four hours; the vomit consists of the contents of the stomach mixed with bile; the bowels have not been moved since the first day of his illness, but he passes flatus occasionally; the abdomen is somewhat tympanitic, with slight tenderness on pressure all over, but he can bear even firm pressure without much complaint; pressure gives most pain in the iliac fossæ, the left being more tender than the right; the abdomen is resonant all over except in the course of the ascending colon; no fulness is felt in the cæcal region; the rectum on being examined is found to be empty; the tongue is furred. Morning temperature 102°, evening 103°.

26th.—His condition is unchanged, the vomiting continuing. He was given a soap-and-water enema, but without result. Morning temperature 100·2°, evening 102·4°.

27th.—The pain has diminished; he has only vomited twice during the last twenty-four hours; an enema had no result. Morning temperature 100°, evening 102·4°.

28th.—Tympanites is increasing; the tongue is more furred, becoming brown and dry. An enema with long tube returned coloured with fæcal matter, with a few small pieces. Morning temperature 100°, evening 100·2°.

29th.—The tongue is less dry; the patient has vomited only once since yesterday. An enema with long tube was administered; he passed several hard scybalous masses. Morning temperature 99°, evening 100·4°.

30th.—There has been no vomiting since yesterday; the tongue is quite moist. An enema with long tube was administered, after which he passed a quantity of scybala, followed by a copious motion. Morning temperature 98·8°, evening 100°.

31st.—The bowels moved naturally. Morning temperature 98·4°, evening 102°.

Sept. 1st.—There has been no more vomiting; the abdomen is more tympanitic and is resonant throughout. The patient still complains of some pain across the hypogastrium; the tenderness has almost disappeared, except on deep pressure in the iliac regions. Morning temperature 99·4°, evening 100·8°.

2nd.—Morning temperature 101°, evening 103°.

3rd.—Morning temperature 102·2°, evening 103°.

4th.—The bowels have acted each day, and there has been no vomiting. The patient has emaciated extremely, the bony prominences becoming red; he was moved to the cottage hospital and put on a water bed. Morning temperature 102°, evening 103·2°.

5th.—His condition is unchanged; he takes nourishment well. On this day a rough systolic murmur was heard over the whole cardiac area, not conducted into the axilla or along the main vessels. The heart and lungs had been frequently examined before, nothing noteworthy having been found. Morning temperature 99·4°, evening 101°.

From this time till his death the temperature varied between 99° and 100·6°. The bowels acted each day and the patient vomited once on the 7th and again on the 9th.

Sept. 11th.—The patient's condition remains the same. The evening temperature, taken at 6 P.M., was 100·8°. About half an hour later, on using the bed-pan, he passed a quantity of bright blood unmixed with fæcal matter; the hæmorrhage continued at intervals till death, which occurred three-quarters of an hour after the onset of the bleeding.

*Necropsy, sixteen hours after death.*—Rigor mortis was present and the abdomen was much discoloured. On opening the abdomen flatus escaped in quantity, leaving the abdominal wall quite flaccid. There was some free liquid fæcal matter in the hypogastric region, and floating on this was found a fæcal concretion, about the size and shape of a date-stone, of a yellow ochre colour. The intestines were universally adherent. The adhesions were broken down without difficulty and in several places small collections of pus were found between adherent coils, in some cases mixed with escaped fæcal matter. The liver was adherent to the diaphragm; on separating it a loculus containing about three ounces of thick yellow pus appeared. There was also a small collection of pus in the left iliac fossa, which had opened into the sigmoid flexure. On removing the intestines the jejunum and ileum were found to be perforated in three or four places. The ulcerative process causing the perforation had evidently started on the peritoneal surface and was caused by the collection of pus between the adherent coils of bowel above mentioned. In one or two places the bowel wall was ulcerated on the outside but not yet perforated, the mucous membrane remaining in one spot only. Peyer's patches were normal, as was the cæcum. On slitting up the appendix, which was three inches in length, a perforation was found. The hole was situated midway between the free and attached ends of the appendix and was half an inch long by a quarter of an inch broad. On the opposite wall of the appendix there was an ulcer of the same size and shape, which had destroyed the mucous and part of the muscular coat, but had not yet perforated. The fæcal concretion exactly fitted these ulcers and had evidently lain in the appendix, causing ulceration on each side of it, and at last escaped into the peritoneal cavity. The sigmoid flexure and rectum contained a quantity of partly clotted blood, and the mucous membrane of the former was deeply blood-stained. The sigmoid flexure was perforated in two places. The ulcers had evidently started on the outside and were caused by the purulent collection in the iliac fossa; the lower of these two ulcerations had opened a vessel in the wall of the bowel, from which the fatal hæmorrhage took place. The pericardium contained half an ounce of clear fluid; there was a circle of adherent lymph the size of a shilling on the anterior surface of the apex, the valves being normal. Other organs were not examined

*Remarks.*—The interesting features of this case which lead me to report it are two: Firstly, the slight amount of peritonitis set up by the escape of the calculus, which must have occurred during the night preceding the onset of the first symptoms (it has been noted above that the patient continued his duties during part of the first day after his illness commenced, that he was able to get up on the second day, and that at no time were the symptoms of peritonitis marked). The second point is the unusual mode of termination of the case—viz., from hæmorrhage, and that from a perforation commencing from the peritoneal surface of the bowel.

Sevenoaks, Kent.

## A CASE OF POISONING BY BROMOFORM.

BY C. W. DEAN, L.R.C.P., L.R.C.S. EDIN.,
HONORARY SURGEON, LANCASTER INFIRMARY.

AFTER reading the able paper by Dr. Burton-Fanning in the *Practitioner* of February, 1893, on "Bromoform in Whooping-cough," my partner and I determined to test its value in a number of cases of that disease which we have had on our list for the past two months. In each case the effect of the drug has been most marked, the paroxysmal cough being greatly reduced in violence and the duration of the disease materially shortened. The form in which we have dispensed the drug is that advised by Dr. Burton-Fanning. My reason for writing this, however, is not so much to extol its virtues as to point out the necessity for impressing on those in charge of patients that the directions on the bottle must be obeyed implicitly or the results may be the reverse of those desired.

A girl aged four years was first seen on April 19th and a four-ounce mixture containing sixty minims of bromoform (two drachms every three hours) was prescribed for her. The first bottle produced the usual good effects and the mixture was repeated on the 22nd of the month. On the 28th I was summoned hastily to see the child, and on my arrival found her quite insensible, with pin-point pupils, livid, and breathing somewhat stertorously. Having in my mind the case of poisoning recorded by Dr. Burton-Fanning in his paper, I soon made up my mind that I was dealing with a similar case, and on questioning the mother found that, disregarding the "shake the bottle" label, she had half an hour before my arrival given the child the last dose in the bottle, which, I should say, must have contained about 15 or 20 minims of bromoform. I sent for the stomach-pump, in the meanwhile endeavouring to rouse the child by flicking her and placing her in a hot mustard and water bath. On using the pump the returned water smelt strongly of bromoform. I then injected strong coffee; by these means I roused the child sufficiently to be able to take her to the Infirmary, where I injected 5 minims of apomorphine (which acted in a very short time) and also applied the battery. The child slowly recovered, and by 3.30 P.M., although rather drowsy, seemed quite well. I think the danger I have pointed out in connexion with the administration of bromoform ought to be brought before the profession, as undoubtedly the drug will be largely used in the future, when its beneficial action in an intractable disease like whooping-cough becomes more widely known.

Queen-street, Lancaster.

# A Mirror
OF
# HOSPITAL PRACTICE,
## BRITISH AND FOREIGN.

**Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Procemium.**

## ST. MARY'S HOSPITAL.

### ACUTE PERITONITIS; ABDOMINAL SECTION; OVARIOTOMY; RECOVERY.

(Under the care of Mr. EDMUND OWEN.)

THE rotation of ovarian tumours has long been recognised as a serious complication of such growths, especially since the publication of the paper by Rokitansky in 1865. The symptoms which follow such rotation, varying with the amount of obstruction to the circulation in the tumour caused by the twisting of the pedicle, and the effect of those changes on the tumour and its surroundings, have been well studied. Sometimes a part of the small intestine becomes twisted with the pedicle of the cyst, as in a case recorded by Hilton Fagge,[1] or the bowel becomes strangulated by the pedicle as recorded by Mundé,[2] or intestine adherent to the cyst is pulled on by the altered position of the cyst and compressed as met with by Ricard.[3] Ricard's case was curiously like the one which we publish below—there was, however, a shorter history and there had been fæcal vomiting. It was briefly as follows: A waitress aged twenty-four was suddenly seized with pain in the abdomen and severe vomiting, and four days later was admitted to hospital in a state of collapse with signs of acute peritonitis. She had previously enjoyed good health; nothing could be found to account for her symptoms. Abdominal section revealed the presence of a dermoid ovarian

[1] Guy's Hospital Reports, vol. xiv.
[2] American Journal of Obstetrics, vol. xiii.
[3] Gazette de Hôpitaux, vol. i., 1891.

cyst with twisted pedicle and adherent bowel; this, forming a kind of second pedicle, was about 4 inches long, perfectly empty and intimately adherent to the cyst. The patient recovered. There may be some doubt, especially in the early stages of these cases, whether obstruction of the bowels is present or not, but Mr. Owen's case adds another to the long list which proves the necessity of operation. For the notes of this case we are indebted to Mr. E. Shepherd, clinical clerk.

A married woman aged thirty-two years was sent on Tuesday, Feb. 14th, into St. Mary's Hospital by a neighbouring practitioner as an urgent case of intestinal obstruction. She certainly was extremely ill, as was shown not only by her face but by her quick pulse and her distended, tympanitic and tender abdomen. She said that she had been suddenly taken ill on the previous Thursday with acute pains which spread from the right flank, across the middle of the abdomen and down the right thigh, and that from the onset of the pain she had been constantly vomiting. She thought that two days before her admission she had passed a motion, but about this she spoke with no certainty; but whether she had intestinal obstruction or not, she was evidently the subject of acute peritonitis. She was too ill to give much account of herself, and urgently begged that something should be done to afford her relief. Her abdomen was so fully distended and was so tender that nothing definite could be arrived at by palpation, though a resisting mass could be obscurely made out to the inner side and a little above the level of the right anterior superior iliac spine. This, it was thought, might possibly be an inflammatory thickening associated with an ulcerated vermiform process, though it was rather high for such a lesion. Exploration by the rectum gave no information. It was agreed in consultation that the proper thing to do was at once to open the abdomen through the right semilunar line, and, this being done, examination was first made of the cæcum and its appendage; but both were found to be normal. Coils of inflamed and distended small intestine were then turned aside from the ascending colon, when a long sausage-shaped mass was brought into view, being absolutely black and suggestive of gangrenous intestine. Following this up towards the liver it was found to end in a free tumour the size of a cocoanut, which was also gangrenous in appearance. On trying to bring down the tumour the black stalk gave way and the tumour, which proved to be an ovarian dermoid one containing hair, became detached. Further examination of the stalk showed that it was a twisted ovarian pedicle. It was, therefore, transfixed in a healthy part, secured in two ligatures and cut off. The uterus was pregnant and about as large as a swan's egg. The peritoneal cavity was washed out with a hot solution of boracic acid and the wound was closed. All went on well until the fourth day, when the woman aborted, the fœtus being estimated at about ten weeks. Her temperature still kept along the normal line and the pulse at about 80. A few days later she had some serious uterine hæmorrhages, and Dr. Handfield Jones, who saw her in consultation, advised the dilatation of the cervix and a thorough clearing out of the uterus. This resulted in the removal of a mass of placental débris. A few days afterwards she had a rigor, and on March 2nd the temperature went up to 104°, and she again had a rigor. The rigors resulted, it was thought, from septic absorption from the uterus, for the abdomen remained free from tenderness; but, under the influence of free irrigations of the uterus and of a final "curetting" this source of anxiety disappeared and the woman went home well and comparatively strong on April 5th.

*Remarks by* Mr. OWEN.—The case was sent in as one of acute intestinal obstruction, which, practically, it was, the paralysis of the bowel being due to acute peritonitis. The peritonitis and the gangrene were the results of a sudden twisting of the pedicle. The want of a clear history of the case previously to admission, and the impossibility of obtaining definite information as to the exact lesion made abdominal section a speculative procedure; but the serious condition of the patient and the absence of all prospect of recovery without surgical relief being afforded rendered the operation not only justifiable but imperative. Before beginning the operation I remarked that I expected that some internal strangulation would be found, but that I used the word "strangulation" in the widest possible sense. This brief report adds one more element to the steadily increasing pile of evidence that cases of acute intestinal obstruction should be regarded as surgical rather than medical. My opinion is that they ought always to be admitted in the first place into the surgical wards of our general hospitals, where, if the physician's help is required, it can be promptly obtained in consultation. As a rule both internal and external medication in these cases entails disappointment and disastrous delay. Our medical colleagues have long since forsworn the use of cutting instruments; and, this being so, it is surely best that these urgent cases should from the beginning be under the care of those with whom the decision, and the responsibility, in connexion with the operation must chiefly rest.

## TORBAY HOSPITAL, TORQUAY.

### A CASE OF DIVER'S PARALYSIS.

(Under the care of Mr. ARTHUR E. WATSON.)

THE following account of diver's paralysis or caisson disease is interesting as a contribution to the comparatively small number of such cases recorded in the medical press of this country. It is a disease characterised by a paraplegia, more rarely a general paralysis, which supervenes on returning from the compressed atmosphere to the surface. This case illustrates also the fact that patients who suffer only from paraplegic symptoms usually recover. We have at least two reports of necropsies on fatal cases of this disease; in Leyden's patient, who died on the fifteenth day, numerous hæmorrhages into the substance of the cord and foci of acute myelitis were found, and Schultze found in a patient, who died two and a half months after the commencement of the illness, disseminated myelitis in the dorsal region and throughout fissures and appearances as if the tissue had been lacerated.

A man aged thirty-four was admitted into the Torbay Hospital complaining of difficulty in walking and of numbness of the feet and the inner sides of the thighs. The patient was a well-developed muscular man, 6 ft. 4 in. in height, and weighing when in health eighteen stone. Three months ago he was diving in fifteen fathoms of water, and when he landed and was in the act of removing the helmet of his diving dress he suddenly felt a numbness in both feet. On trying to walk he could only do so with great difficulty and swayed about from side to side. He felt no pain in the back or legs. The difficulty which he experienced in walking gradually increased, and after a few days his feet felt as if they were two or three inches off the ground. He could not walk in the dark and found it more difficult to walk when the ground was uneven. Owing to his condition he became greatly depressed and drank large quantities of spirits. He stated that he had not been to bed sober for three weeks preceding his admission. About eighteen months ago he was diving in Melbourne Harbour, and he then had an attack which very much resembled the present one but was not so severe. He was an in-patient in the Melbourne Hospital for six weeks and went out much better and afterwards got quite well again and had remained so until the present attack. He stated that divers were very often subject to severe attacks of epistaxis and hæmoptysis after diving at any great depth or for prolonged periods. These attacks often relieved the oppression and frontal headache which they experienced. He had often had attacks of epistaxis after diving and had always felt relieved afterwards.

On admission the patient stood with his legs wide apart and could hardly walk without assistance. When walking alone he steadied himself with a stick or by holding on to a chair or table. His gait was slow and peculiar, the legs were extended and wide apart when he walked, the feet were lifted well off the ground and brought down rather sharply, and he rolled from side to side. He experienced great difficulty in turning round, and could only do so very slowly and with assistance. His feet felt numb and as if they were not touching the ground, he could not keep his balance with the eyes shut and he could not stand with his feet close together. There were well-marked anæsthesia and analgesia along the upper two-thirds of the inner aspect of the thighs and on the soles of the feet. Both limbs were well-nourished and there was no apparent wasting, but the muscular power was no doubt greatly diminished. There was no pain in the back or in the legs and no loss of control over the bladder or rectum. The knee-jerks were not altered. The plantar reflex was increased on the right side, but was absent on the left. When first admitted the patient was suffering from the effects

of alcoholic excess; his hands were tremulous, the tongue was coated and tremulous, and he suffered from sleeplessness and slight delirium at night. This, however, soon passed off. His weight was sixteen stone. He was kept at rest in bed and was placed upon a light diet of fish, eggs, milk &c., and ten grains of iodide of potassium were given three times a day. He remained in the hospital for one month and then left at his own request. The following note was taken before his discharge:—The patient has greatly improved. He can now walk without assistance, but still sways slightly from side to side. The anæsthesia and feeling of numbness in the feet and thighs have now almost entirely disappeared. The plantar reflexes are the same on both sides.

*Remarks.*—The above disease is, I believe, not uncommon amongst divers and those who are exposed to great atmospheric pressure, but it is not common in hospital practice in England. The symptoms in this case came on suddenly after the patient had left the water and was removing his mask and in other cases recorded this is a point noticed. In Dr. Theodore William's lecture on Aerotherapeutics in Lung Disease he states that the post-mortem examination in one case showed extravasation of blood between the spinal dura mater and arachnoid. The symptoms of this case could easily be explained by the occurrence of minute hæmorrhages into the spinal cord, which were not so extensive in the first attack. This patient had never experienced the sharp muscular pains which divers often complain of, but he had suffered from repeated attacks of epistaxis and hæmoptysis without showing any signs of lung or heart trouble. The peculiar gait &c. somewhat resembled locomotor ataxy, and the lesion in this case may have been partly in the posterior columns of the spinal cord.

## ROYAL PORTSMOUTH, PORTSEA AND GOSPORT HOSPITAL.

### CASE OF LARGE HÆMATOCELE OF THE BROAD LIGAMENT AND INTRA-CYSTIC HÆMORRHAGE; PERITONITIS; ABDOMINAL SECTION; RECOVERY.

(Under the care of Dr. J. WARD COUSINS.)

IN this case there was scarcely any pedicle at all, and the cyst wall and broad ligament formed together the large tumour which enclosed the extravasated blood. The hæmorrhage had probably been caused by the rupture of some small varicose vessels in the substance of the broad ligament during inflammatory changes in the pelvis on the accidental rotation of the tumour itself. At the time of the operation the whole tumour had a deep-red colour, and the swelling at the base looked as if it were on the point of rupture. The mass was carefully enucleated and the extravasated blood completely pressed out with the fingers. The hæmorrhage does not appear to have taken place at the time of menstruation, and there was no evidence of any escape into the cavity of the peritoneum. For the notes we are indebted to Mr. T. H. Bishop, house surgeon.

A single woman aged thirty-three was admitted to the Royal Portsmouth Hospital on Aug. 23rd, 1892. She complained of great enlargement of the abdomen and general ill-health. The abdominal swelling was first noticed eighteen months before admission, and had been steadily increasing in size. Her catamenia had—since the appearance of the tumour—often come on at intervals of two weeks only and the flow lasted usually six or seven days. The abdominal surface was even, with a well-marked rounded swelling, reaching at its upper limit to a level of about three inches above the umbilicus. On palpation fluctuation could be distinctly made out. The principal measurements were: (1) Circumference of abdomen at the umbilicus, 29 in.; (2) circumference of abdomen at the level of the anterior superior iliac spines, 30½ in.; (3) from the umbilicus to the right anterior superior iliac spine, 7 in.; (4) from the umbilicus to the left anterior superior spine, 8 in.; and (5) from the tip of the ensiform cartilage to the symphysis pubis, 14 in. On vaginal examination the tumour was readily recognised; the uterus was somewhat enlarged, movable and deflected slightly to the right. On Sept. 2nd the patient complained of constant and acute abdominal pain. Her temperature was 102° F., and she lay on the back with knees drawn up. The abdomen was tender on palpation and distended. On Sept. 8th a hypodermic needle was inserted into the centre of the tumour and the fluid withdrawn was found to be deeply blood-stained. Blood corpuscles were detected on microscopic examination. The symptoms of peritonitis being increased rather than diminished, it was decided to operate without delay. Accordingly on Sept. 11th Dr. Ward Cousins performed the operation of ovariotomy in the usual manner. About ten pints of dark, blood-stained fluid were withdrawn from the cyst, which was unilocular, and its walls were deeply injected with blood. The adhesions were universal and for the most part recent. The pedicle and broad ligament were found to be infiltrated with blood-clot from recent hæmorrhage. A glass drainage-tube was inserted in the lower end of the wound and was left in for thirty-six hours. Small quantities of fluid were drawn off through it about every three hours. The wound healed by first intention and the further progress of the case was undisturbed by complications. Convalescence was somewhat prolonged and the patient was finally discharged quite well on Oct. 24th.

# Medical Societies.

## PATHOLOGICAL SOCIETY OF LONDON.

*Papillomatous Ovarian Cysts.—Tuberculosis of Fallopian Tubes of Uterus and Vagina in a Child.—Lymphatic Nævus of Tongue.—Anatomy of "Hammer Toe."—Fibro-cystic Tumour of Uterus.—Processes of Regeneration of Fibrous Tissue in Tendon.—Growth of Mediastinum opening into both Œsophagus and Aorta.—Psorospermial Growth from Cat's Lip.—Endocarditis with Pulmonary Tuberculosis.*

AN ordinary meeting of this Society was held on May 2nd, the President, Sir GEORGE HUMPHRY, in the chair.

Dr. PYE-SMITH showed two large Papillomatous Ovarian Tumours obtained from a woman aged thirty-five who had enjoyed good health and was the mother of four children. In August, 1884, there was ascites and she had been tapped altogether since then 299 times. It was at first considered to be a case of simple chronic peritonitis, but the successive tappings having suggested the presence of organic disease, an exploratory operation was undertaken in 1887. Many bright glistening objects were seen studded over the peritoneum and omentum and the case being regarded as one of colloid the abdomen was closed without further delay. A small portion of growth withdrawn on the nail proved to be of typical villous character, like those occurring in the bladder. After the last tapping vomiting supervened and the patient died. At the necropsy two large villous tumours of the ovary were found; the abdominal cavity contained peritoneal fluid and all the other organs were healthy. It appeared to be a purely local disease, with none of the true elements of malignancy about it.—Mr. HOPKINS, in describing the composition of the fluid, said that it was a concentrated ascitic fluid, together with a small quantity of mucin; a little fibrinogen was also present.—Mr. A. DORAN referred to a specimen which he exhibited in 1879, taken from a single woman aged forty-nine, of a papillomatous growth entirely inside the Fallopian tube. The abdominal ostium was not closed and the peritoneum became infected. The growth was removed and a good recovery resulted. Last year in the Samaritan Hospital he removed two papillomatous ovaries from an emaciated woman who had since got quite well. If the primary tumour was removed atrophy of the secondary papillomatous growths about the peritoneum usually, but not always, occurred.—Dr. CULLINGWORTH referred to the case of a girl, who was a mill hand, aged twenty, from whom he removed a large papillomatous cyst which had previously been tapped, and there were multiple sprouting growths infecting the peritoneum. Twelve months after the operation she was well and following her employment and the secondary growths appeared to have all withered. In two other cases in which he had at first closed the wound and refused to remove the growth on the ground that it was probably malignant he had since operated with a successful result.—Mr. CHARLES MORTON mentioned a case which had been in the Bristol General Hospital. The woman was admitted with symptoms of ascites, and a mass of papillomatous ovarian growth was removed from the pelvis. Though there were many scattered growths over the peritoneum a year later there had been no recurrence.—Dr. PYE-SMITH, in reply, said that he agreed that the tumours were probably derived from the parovarium.

Mr. CHARLES MORTON (Bristol) showed a specimen removed post-mortem from a child aged eight years who died of Phthisis. There was a tubercular growth the size of a walnut in the Fallopian tube, associated with a nodular ulcerated condition of the interior of the uterus and the upper part of the vagina.—Mr. DORAN asked if vulvo-vaginitis was present, which was a common complaint in children and refractory to treatment.—Dr. GRIFFITHS asked Mr. Morton if he had satisfied himself that the vagina was affected with tubercular disease, as that was very rare.—Mr. MORTON replied that the child had advanced phthisis and he thought the genital apparatus had become infected with tubercle in the same way as the peritoneum had. He had not looked for bacilli in the vaginal deposit.

Mr. MORTON also showed a specimen of Lymphatic Nævus of the Tongue. The growth was removed from the tongue of a girl aged eight years, under the care of Mr. Ewens in the Bristol Children's Hospital. It presented the appearance of a vesicular warty growth on the dorsum and edge of the tongue. The growth was about the size of a shilling and was raised a quarter of an inch above the surface. It had been first noticed a few months after birth. Microscopic sections showed in the papillæ and submucous tissue large spaces filled with coagulated lymph.

Mr. WARRINGTON HAWARD showed six dissected specimens of "Hammer-toe." They were all second toes and well-marked examples of the deformity, and had been amputated at the request of the patients on account of the pain and lameness to which their condition gave rise. The first phalanx was in a position of extreme extension; the second phalanx was flexed on the first at nearly a right angle; the third phalanx was extended on the second.—The PRESIDENT said he had dissected many hammer-toes. The condition, he was sure, was not caused by contracted ligaments: if that change occurred at all it was secondary. It was essentially a muscular affection and due to want of proper balance between flexor and extensor action; the balance being disturbed by accident or disease. By narrow shoes the great toe was pushed outwards from its position and the second toe, being compressed between the great toe and the third, became incapable of acting, and then the muscular balance was disturbed.—Mr. SHATTOCK said that in a paper he had previously communicated to the Society he had shown that the shortening of the lateral ligaments prevented the reduction of the deformity, as to the causation of which he agreed with the views of the President.—Dr. EDMUNDS considered the condition due entirely to defective boots. He asked if division of the tendon would bring about cure.—Dr. W. SMITH said it was astonishing to find how many people presented a condition approximating to hammer-toe.—Mr. HAWARD, in reply, could not accept the theory of ill-fitting boots to explain all the cases. Many were distinctly hereditary, and it occurred especially in neurotic people.

Dr. CULLINGWORTH then exhibited, as a recent specimen, an Extreme Example of Fibro-cystic Disease of the Uterus.

Mr. A. H. TUBBY described the Process of Regeneration of Fibrous Tissue as exemplified in Tendons. In order to follow the question of repair the tendo Achillis in rabbits was divided and then examined at periods of from three days to thirteen weeks. The best stain was found to be a mixture of alum—carmine and osmic acid. Immediately after division the tendon stumps were seen to be square and clean-cut and embedded in a mass of blood-clot. On the third day the tendon stumps were becoming rapidly infiltrated with large cells—plasma cells—which separated the individual fibres and obscured them. In the effusion were seen numerous vacuolations, some surrounded with an almost continuous length of plasma cells (vasoblasts). Other plasma cells had lost their rounded or oval outline and become irregular with processes. Leucocytes were still abundant and the red corpuscles much in evidence. From the appearances presented in specimens taken at a later date there could be no doubt that the plasma cells were both fibroblastic and vasoblastic. The great majority were fibroblastic from the first, while the minority passed through a vasoblastic stage of existence. In either case, in experiments extending over a sufficiently prolonged period, all the stages of formation of fibres from these cells were evident. "Giant cells" made their appearance in the uniting material from time to time and were due to the ingestion of leucocytes. The oblong fixed cells did not give rise to any fibres. Leucocytes, at first exceedingly abundant in the effusion, played a very subordinate *rôle*. They were non-phagocytic and merely served as a nidus or pabulum for the development of the plasma cell. The dovetailing of old and new tendon was brought about by the formation of groups of rounded cells ("latent cells") in between the tendon fibres and bundles. From these arose fibroblasts and vasoblasts which developed and the resultant fibres mingled with the newly formed fibrous tissue between the tendon stumps.—Mr. R. BOYCE asked if mitosis of tendon cells was observed and if true tendon was formed.—Mr. TUBBY, in reply, said he had not seen mitosis of the tendon cells, and on the whole he thought that true tendon tissue was not formed.

Dr. HALE WHITE showed a Growth of the Mediastinum, implicating the Heart and opening both into the Œsophagus and Aorta. The patient during life presented the usual signs of mediastinal growth and in addition had a loud systolic aortic murmur. He died suddenly, bringing up much blood from the mouth. At the necropsy the superior and left part of the posterior mediastinum were found to be occupied by a round-cell sarcoma, which was gangrenous in parts, it displaced and compressed the left lung, it implicated the greater part of the left pleura and the pericardium, causing both pleurisy and pericarditis. The left auricular wall was formed almost entirely of new growth, and into its cavity some nodules projected. The aorta was much constricted by growth, the valves were healthy, and so this constriction must have been the cause of the murmur. Half an inch below the origin of the left common carotid the aorta was ulcerated through and communicated through a mass of growth with the œsophagus, into which the growth had also ulcerated, thus the sudden hæmorrhage from the mouth which caused death was explained.—Mr. SHATTOCK said there were two similar specimens in the museum of St. Thomas's Hospital.

Mr. J. JACKSON CLARKE showed Microscopic Sections and Drawings of a Tumour as big as a filbert removed by Mr. R. M. Smythe from the lower lip of a cat. It had been noticed for two or three years. The case was of great interest owing to the light it threw on the parasites met with in cancer. The tumour was chiefly occupied by small cysts, which were completely filled with gregarinidæ. In the central parts of some of the cysts were encapsuled conjugating parasites and collections of sporosphores and sporocysts (pseudo-navicellæ). The case afforded, in Mr. Clarke's opinion, complete confirmation of his interpretation of certain bodies which constituted the chief part of the contents of the small cysts found in scirrhus cancers of the breast.—Dr. RUFFER contended that the specimens shown under the microscope did not exhibit psorosperms.—Mr. R. BOYCE thought the appearances were suggestive of the ova of nematodes, though these usually formed tumours of granulomatous character. Some of those shown appeared to be spiked at one end, reminding him of the fluke tribe.—Mr. CLARKE, in reply, defended his description of the specimens.

Dr. J. E. SQUIRE brought forward a case of Aortic Disease and Pulmonary Tuberculosis. The patient, a labourer aged forty-six, had been in the army and had served fifteen years in India, where he had had malarial fever. With this exception he had enjoyed good health until the last few years. For two years he had had a dry cough, and once, three months ago, he had an anginal attack. On admission to hospital there was much cough with frothy expectoration. The heart was enlarged and a systolic murmur was heard over the apex and a double murmur at the aortic orifice. The arteries were firm, tortuous and visibly pulsating. Four days after admission the patient died. At the necropsy the enlarged heart was found to have a dilated mitral orifice with puckering of the mitral valve. Of the aortic valves one had a roughened edge, a second had a large oval perforation, and from the margin of the third a large calcified vegetation, three-quarters of an inch in length, projected up into the aorta. The vessel itself was markedly atheromatous. In the lungs congestion and œdema were found at both bases. A large white scar on the surface of the right lung near the apex overlaid an ovoid mass of caseous material, which was surrounded by a well-marked fibrous capsule. Outside this again was a zone of congestion. Scattered through the upper lobe of this lung were several recent tuberculous patches.

The following card specimens were shown:—

Mr. S. G. SHATTOCK: Adeno-fibroma of Mamma in a Male White Rat.

Mr. E. C. STABB: Large Aneurysmal Dilatation of a Varicose Vein.

Mr. C. A. MORTON: (1) Sarcoma of Peritoneum growing into Intestine and causing fatal Perforation; (2) Columnar Epithelioma of the Small Intestine in a young woman aged twenty-six; (3) Pure Sarcoma of the Breast with very marked Glandular Infection.

Mr. C. F. BEADLES: Fat Necrosis of Peritoneum.

## CLINICAL SOCIETY OF LONDON.

*Syphilitic Stenosis of Larynx treated by Excision of Cord.—Spastic Paraplegia.—Partial Excision of Larynx.—Skin Eruption on Outer Surface of Arms.—Functional Contraction of Hands.—Sequelæ of Influenza.—Plastic Operation for Epithelioma of Lips.—Excision of Scapula for Sarcoma.—Report of Committee on Period of Incubation and Contagiousness of Certain Infectious Diseases.—Psoas Abscesses Fatal through Renal Complications.—Bloodless Method of Removing the Tongue.—Perforating Gastric Ulcer treated by Abdominal Section.*

A CLINICAL MEETING of this Society was held on April 28th, the President, Sir DYCE DUCKWORTH, in the chair.

Mr. EWEN C. STABB showed a patient who contracted Syphilis nine years ago. Two years ago he was seized, after some premonitory symptoms, with sudden and intense dyspnœa, for which he was conveyed to a special hospital, where tracheotomy was at once performed. Some time later he was admitted for a similar attack to the hospital, when it was found that the tracheotomy tube had caused the formation of a good deal of cicatricial tissue, seriously impinging upon the lumen of the larynx. Some difficulty was experienced in effecting the removal of the tube, so median thyroidotomy was performed. The right vocal cord had been seen to be quite fixed, so it was dissected away, together with a quantity of the cicatricial tissue. The voice had, nevertheless, been quite restored, and, though the operation was done two months since, there was no sign of recontraction. He also removed a piece of necrosing thyroid cartilage.—Dr. DE HAVILLAND HALL had met with a case much like that described, except that there was no necrosis of the cartilages. He was treating it with laryngeal dilators, and the result so far was successful.

Dr. WALTER CARR showed a girl aged five, described as suffering from a mild form of Pseudo-hypertrophic Paralysis, though he had adopted this designation rather from the want of a more accurate one. The child had not walked until two years of age and had never had the proper use of her legs, there being a good deal of stiffness, and she always went upstairs on all fours. In the erect position there was slight lordosis. The reflexes were slightly brisk, but there was no ankle clonus.—Dr. HADDEN and Dr. BEEVOR both regarded the case as one of Spastic Paraplegia, probably of intra-uterine origin.

Dr. J. W. BOND exhibited a patient upon whom he performed Partial Excision of the Larynx for a Myxomatous Tumour. The symptoms dated from June, 1889, when some hoarseness was noticed. In August, 1891, the patient came complaining of stertorous breathing, and the presence of a mass of growth was made out inside the larynx, projecting upwards against the left ericoid, together with a swelling behind and external to the right arytenoid, pushing the larynx over to the left side. Breathing became more obstructed, and in September, 1891, tracheotomy had to be performed suddenly. In September the patient presented a swelling on the front of the neck due to dilatation of the thyroid cartilage caused by a myxo-enchondromatous growth springing from the anterior surface of the posterior part of the cricoid cartilage. He therefore removed the arytenoid cartilages with the cartilages of Wrisberg and Santorini, together with part of the thyroid cartilage and both vocal cords, as also most of the laryngeal mucous membrane. The growth weighed eleven drachms and a half. The patient made a rapid recovery and was able to speak well with an artificial larynx without reed.

Dr. A. H. CLEMOW showed a case of Skin Eruption on the Outer Surface of the Arms for diagnosis.

Dr. BEEVOR showed a Polish woman aged thirty, who presented Contraction of the Hands of Functional Origin, together with total anæsthesia to touch and limitation of the field of vision, without loss of colour perception in the right eye. She was very amenable to the hypnotic influence and then the contraction yielded for a time. The first symptoms dated from the age of seven, when she had a fright, and since then she had from time to time exhibited a series of phenomena of a neurotic type. He observed that, though common abroad, such cases were rare in this country.

Dr. F. R. WALTERS exhibited a man aged thirty-four who, after a severe attack of Influenza, complicated by Double Pleurisy, recovered with stiffness and thickening of the articulations of the hands and of the flexor tendons.

Mr. A. E. BARKER showed a man, exhibited a few weeks since, with Epitheliomatous Ulceration at the Angle of the Mouth, involving both lips, for which he had performed a plastic operation with a very successful result.

Mr. GOLDING BIRD showed a girl aged fourteen on whom he had performed Total Ablation of the Left Scapula for a large Sarcomatous Growth. Primary union had followed, and on the thirty-first day after the operation, except that the arm could not be lifted up to the head, the limb was as useful as ever, and when dressed no deformity of the shoulder could be seen, the trapezius supporting the clavicle well and preserving the normal outline of the shoulder.

Dr. BROADBENT presented the Report of the Committee on the Periods of Incubation and Contagiousness of certain Infectious Diseases. He expressed the hope that it would be found worthy of the Society and apologised for the long period of incubation of the report itself. The report would, he said, settle definitely the incubation period of the diseases with which it dealt. He called attention to the great and valuable assistance rendered by Dr. Dawson Williams in bringing the investigations to a satisfactory conclusion. Thanks to the delay, he had been enabled to comprise therein the reports of the medical department of the Local Government Board. He pointed out that the report not only comprised certain conclusions but provided material which would enable anyone to form an opinion of his own. The first thing had been to determine the length of the incubation periods before proceeding to investigate the duration of the periods of contagiousness.—The PRESIDENT, in receiving the report on behalf of the Society and in tendering his thanks, said that he was sure the document would have a very wide circulation. It bore on work which was pre-eminently adapted to the Clinical Society, and on behalf of the council he endorsed fully the observations of Dr. Broadbent as to the great value of the assistance Dr. Dawson Williams had rendered.

Dr. F. L. BENHAM read notes of a case of Psoas Abscesses Fatal through Renal Complications. The patient, a boy who was aged eight in August, 1886, was then suffering from an abscess in the left buttock. No injury could be assigned as to the cause. It proved to arise from disease of the lower dorsal and lumbar vertebræ. It was opened and was followed by other abscesses on both sides, which remained open as sinuses for a long time. In the following summer a Sayre's jacket was applied, being renewed at intervals, and eventually—in five years' time—the spine had completely healed and the sinuses were all closed up. Meanwhile albuminuria had developed and persisted; gravel and occasionally small calculi were passed per urethram. In July, 1892, an attack of left renal colic took place, accompanied by great enlargement of the kidney; this ceased in a few days with the passage of a quantity of thick mucus. A similar attack took place in January, 1893, attended by almost complete suppression of urine, and ended fatally in two or three days. At the necropsy the only disease found in the body besides an albuminoid condition of the liver and spleen was in the kidney and ureters. The left ureter was found to be twisted, obstructed and tightly bound down by a mass of cicatricial tissue by the side of the spinal column. The corresponding kidney was in an extreme state of hydronephrosis ("sacculated kidney") and contained blood-stained urine, mucus and several calculi. The right kidney was enlarged, dilated and transformed into a kind of abscess with peculiar contents. The ureter did not appear to be closed. The calculi were composed of uric acid, urates and phosphates of lime.—Mr. CLEMENT LUCAS said that it had often struck him as curious that spinal abscess was not more frequently complicated with renal disease. He thought that the formation of the calculus was probably secondary to scrofulous pyelitis.—Dr. BROADBENT regarded the calculus as secondary to constriction of the ureter, and he referred to two cases of constriction of the ureter in which the cause had been pelvic cellulitis.—Dr. BENHAM replied that the constriction, which was of long standing, was probably the cause of the trouble. There was no evidence of tuberculous disease elsewhere.

Mr. CHRISTOPHER HEATH read a communication on a Bloodless Method of Removing the Tongue which he had been led to adopt on account of occasional difficulty in securing the lingual artery. The preliminary portion of the operation being that of Whitehead, Mr. Heath divided the isolated half of the tongue transversely with a bistoury and the finger, and then gripped the lingual vessels with the small amount of remaining tissue by means of a large pair of angular Wells' forceps, the blades of which were two inches long. Cutting away the tongue close to the forceps, a hempen ligature was then passed

behind it, tied as tightly as possible and cut short.—Mr. GOLDING BIRD said that he had accomplished the same object by using a large pair of Spencer Wells' forceps. He pointed out the necessity of relaxing the forceps as the ligature was being drawn tight; if this were not done, the tissues, being tightly gripped, would not be able to yield and there was danger of pressure on the artery being insufficient.—Mr. HEATH, in reply, maintained that is was not necessary to relax the forceps. He had treated a large number of cases in this way, but had only met with one case of secondary hæmorrhage.

Dr. LEE DICKINSON and Mr. WARRINGTON HAWARD communicated the details of a case of Perforating Gastric Ulcer treated by Abdominal Section. A woman aged twenty-six, who had previously suffered from painful dyspepsia, was brought into St. George's Hospital in a state of collapse due to the perforation of a gastric ulcer. Abdominal section was performed fourteen hours after the occurrence of acute symptoms. A few days after the operation the patient was a good deal disturbed by the occurrence of suppurative parotitis on both sides. Subsequently symptoms of consolidation of the bases of the lungs appeared, which cleared up on the right side, but extended on the left. Purulent expectoration and fever continuing, the left pleura was explored without success, and the patient died at the end of six weeks. Post mortem the stomach was found firmly adherent to the abdominal wall, and the condition of the abdomen was satisfactory. The cause of death was abscess in the base of the left lung with a small diaphragmatic empyema.—Dr. PENROSE referred to a paper he had recently brought before the Society in conjunction with Dr. Lee Dickinson, in which in ten cases of gastric ulcer there was associated inflammation of the lower lobe of the left lung; in seven, so far as the evidence went, it pointed to the fact that the irritating material which passed through the diaphragm to set up empyema, pleurisy, or pulmonary inflammation accomplished this at a very early period. The failure to obtain pus by an incision opposite to the tenth rib was explained post mortem by finding the diaphragm attached higher up.—Mr. R. W. PARKER referred to the cases of two housemaids at the East London Children's Hospital who had died from perforation of gastric ulcers. He remarked on the difficulty of ascertaining the nature of the case when there had been no previous history or symptoms pointing to the existence of ulcer. In one case the peritoneum was found to be so contaminated by the presence of extravasated gastric contents that he was doubtful whether it would have been possible to have cleansed it.—Mr. HAWARD, in reply, held that surgical intervention, if only resorted to early enough, might be successful in cases of ruptured gastric ulcer. As the irritating material was so readily absorbed it was of the greatest importance not to delay operative interference.

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SUPERANNUATION GRANT.—The Kingston Board of Guardians has granted Mr. R. D. Harris, M.R.C.S., who has been the medical officer of the Kingston Workhouse for the last thirty-seven years, a superannuation allowance of £110 per annum.

MIDDLESEX HOSPITAL.—The in- and out-patient departments of this hospital will, we are informed, be closed from July 1st to Sept. 18th next for the carrying out of necessary repairs and alterations. During the fortnight previously to the above-mentioned date no new patients will be received, so as to allow the wards to be cleared by the time specified. We understand that it was intended last year to close the hospital, but this intention was not carried out on account of the fact that the committees of other hospitals had contemplated the closure of their wards for the same purpose.

THE ROYAL INSTITUTION.—Sir James Crichton-Browne, M.D., F.R.S., took the chair at the annual meeting of this institution held on May 1st. The report of the Committee of Visitors for the past year was read and adopted. The fact that the real and funded property of the institution now amounts to more than £104,000, entirely derived from the contributions and donations of its members and others, is a substantial proof of the estimation in which it is held. Sixty-three new members were elected in 1892, in which year sixty-three lectures and twenty evening discourses were delivered and a total of 768 volumes was added to the library. The following principal officers were elected for the ensuing year: President, the Duke of Northumberland, K.G.; treasurer, Sir James Crichton-Browne, M.D., F.R.S.; secretary, Sir Frederick Bramwell, Bart., D.C.L., F.R.S.

# Reviews and Notices of Books.

*Les Trois Livres de Jérôme Fracastor sur la Contagion, les Maladies Contagieuses et leur Traitement.* Traduction et Notes par LÉON MEUNIER, Docteur en Médecine. Paris: Société d'Editions Scientifiques.

THE name of Fracastor will be always remembered in connexion with his famous Latin poem on Syphilis; but that his other works possess considerable merits may be judged from a perusal of his three works on Contagion, Contagious Diseases and their Treatment, which Dr. Meunier has translated from the original Latin into French, the latter in full type occupying the upper half of each page, whilst the Latin, in smaller but very legible type, occupies the lower half, enabling the reader to note the many interesting resemblances between the two languages. In his preface the translator gives the following as his reason for the translation and publication of these works: "Il nous a paru curieux, à une époque où les questions d'infection, de contagion et de virus sont à l'ordre du jour dans le monde scientifique et médical, de rechercher s'il n'y avait pas dans les auteurs anciens des traces des doctrines actuellement en faveur sur ces différents sujets. Nos recherches n'ont pas été infructueuses; car dans la première moitié du seizième siècle nous avons trouvé un petit traité en trois livres, intitulé 'De la Contagion, des Maladies Contagieuses et de leur Traitement' qui nous semble avoir, dès ce moment, posé le problème de l'infection et des germes—et l'avoir résolu—autant que le permettaient les connaissances scientifiques de ce temps-là. Ce traité a été écrit par Fracastor, l'auteur fameux du poème latin sur la Syphilis." This preface is followed by a notice of the life of Fracastor, commencing with two curious statements. One is that he was born with so small a mouth that it had to be enlarged with a cutting instrument; the other that whilst he was still young and in his mother's arms she was struck with lightning and killed, whilst he escaped. Other interesting details follow, and then comes what may be called the dedication of the work to Cardinal Alexandre Farnese. The first book, on contagion, consists of twelve chapters. Fracastor appears to have studied very attentively the mode by which fruit becomes decayed. Whilst it was not evident how the process commenced, it seemed only too probable that it spread from one to another. He also appears to have noticed the effects which surrounding circumstances, the state of the air &c., had in promoting or retarding this condition. All varieties of contagion, so far as they were known at that time, appear to have been studied by him and the work will well pay perusal. The second book, comprising fifteen chapters, deals with contagious fevers. The third book, comprising twelve chapters, is devoted to the treatment of all contagious diseases. It is scarcely possible within the limits of a review to do full justice either to the author or to the translator. This could only be done by giving somewhat lengthy extracts; but enough has been said to show that this work, which is of very handy and portable size, is well worthy of being studied by all who are interested in the subject of contagious diseases.

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*Health Hints for Central Africa: with Remarks on "Fever," its Treatment, and Precautions to be used in Dangerous Localities.* By HORACE WALLER, M.A., formerly Lay Superintendent of the Universities' Mission in East Africa. Fifth Edition. London: John Murray.

THE writer of this book apologises in the introduction for the fact that his "pen was not held by a member of the medical profession," bringing forward at the same time the very valid excuse that this "is not altogether a disadvantage

if an author has to cater for persons aware of a like disability and who might be confused by the terms used by physicians." As medical critics we can cordially testify that he has brought together, in popular instruction form and diction, a great deal of valuable advice and warning for the use of the African resident and traveller. Before the preparation of the original edition Mr. Waller had had the advantage of "a very extensive and continuous experience of fever and its complications in East Africa during a period of nearly four years, during which time," he gratefully adds, "Dr. Livingstone, Sir John Kirk, G.C.M.G., F.R.S., Dr. Meller and Dr. Dickinson did all they could in their medical capacity to make their knowledge available in my hands for the relief of some hundreds of cases." The advice of a writer furnished with such sources of information should be taken with respect. It does not require any very technical knowledge of scientific medicine to be able to observe rationally and record faithfully the principal phenomena of the deadly African fever. The healthy zone of East Africa is here defined by a line drawn 100 miles south of the Zambezi. "Probably no worse form of fever is to be found than upon the right bank of this river; nor till Egypt is reached can fever be counted as an absentee from the missionary station or the traveller's camp. It is at a minimum on the higher level of the country, and here and there, as in Somali land, it may be rare." The phenomena of the dreaded fever are described in clear and simple language. Four types are recognised: (1) intermittent, (2) remittent, (3) a cross between the two (which is the ordinary form assumed by African fever), and (4) the so-called hæmaturic fever. The author looks upon "chill whilst sleeping" and "staying idle in a place for a few days' rest" as the most potent causes of an attack. "Better go and shoot or botanise, or what not; never mind about the heat, *always be active and stirring in mind and body*. The tendency to lassitude is very great, and a man is indeed on his mettle in overcoming it." Sitting with wet feet or in wet clothes is also one of the most fruitful causes of an attack. The frequency with which this plague of the Dark Continent repeats itself is rather depressing to notice. "It is not too much to say that in three years the same patient underwent some eighty repetitions of fever (this was between 1860 and 1864) and one mentions this instance to mark down some of the fears connected with the subject. The person in question is still (although quite deaf) alive and active in Africa, but not in the unhealthy part." At the onset of an attack—when the vomiting has subsided a little—ten grains of "Dr. Livingstone's pills" should be taken. After the bowels have been moved—five hours or so later—the patient should have some quinine, four grains dropped into a wineglassful of water. The idea as to some persons "not being able to 'stand quinine,' that it 'flies to the head,' and so forth must be banished as utter nonsense. In Africa everyone can stand quinine. *There is scarcely a disorder in which it is not positively required*, and in a desperate case very large doses must be given."

The writer gives throughout very sensible advice both for the prevention and treatment of African fever. His second chapter, "Precautions," is full of judicious counsel and suggestions. A well-arranged index concludes this handy popular guide to the hygiene of the Dark Continent.

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*A Manual of Bacteriology.* By A. B. GRIFFITHS, Ph.D., F.R.S.Edin., F.C.S. London: William Heinemann. 1893

THIS manual of bacteriology is a curious mixture of useful and useless information. It is evidently the work of a good chemist who has turned his attention to the chemistry of bacteriology and whose knowledge of the literature of bacteriology is both wide and accurate, and it has all the excellencies, accompanied by many of the drawbacks, that might be expected in a book from such an author. The amount of detail given is very great, far too great, in fact, to be mastered by ordinary students of bacteriology, but, as it were to compensate for this, there is a sad lack of exegesis. There are no general principles laid down and the reader who goes through this work carefully and conscientiously will, we are afraid, find himself rather in the position of the bird that has been prepared for the supply of the *pâté de foie gras*. As a book of reference it will be useful and the chemical part of the work is exceedingly well done, but these good features, together with those we have already mentioned, do not blind us to the fact that the book might be very considerably improved in several directions, especially in those above indicated. The work is well printed and the illustrations are good.

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*The Principles of Theoretical Chemistry; with special reference to the Constitution of Chemical Compounds.* By IRA REMSEN, Professor of Chemistry in the Johns Hopkins University. Fourth Edition, thoroughly revised. London: Baillière, Tindall and Cox. 1893.

PROFESSOR IRA REMSEN in the text-book before us gives a clear and concise exposition of a difficult subject. The principles of theoretical chemistry need to be put very plainly to the student, for unless he gains a clear insight into the laws which govern the constitution of matter his idea of the whole subject is seldom sound, whilst he will probably lose the full benefits of a practical course. This book when carefully perused should carry the intelligent student well over the *pons asinorum* of chemical science, since it gives him clear accounts of all theory and modern speculations without burdening him with the hundred and one hypotheses which, if his interest is so far aroused, he can digest from the large works of such eminent writers as Lothar Meyer, Van t'Hoff, Ostwald and others. In short, the text-book under notice is a lucid abstract of the hypotheses and theories which obtain in the present day, and we cordially commend it to the notice of students and those interested in the advances which chemical theory has recently made. We have noticed this book favourably on a previous occasion, since which time four editions have been printed, and it has recently been translated into the German and Italian languages. The growing importance of the study of the nature of solution is duly valued, and a very readable chapter on this subject has been added.

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*The Journal of Anatomy and Physiology.* Conducted by Sir GEORGE HUMPHRY, Sir WILLIAM TURNER and J. G. M'KENDRICK. Vol. XXVII., Part 3, April, 1893. London: Charles Griffin and Company.

THIS part contains: 1. A Description of the Rudimentary Hind Limb of a Great Fin Whale (Balænoptera musculus), by Professor Struthers. The specimen was found stranded on the beach at Nairn, and after being landed, which proved to be an operation of much difficulty, it was sufficiently fresh to enable Professor Struthers to give a satisfactory demonstration of the characters of this species to the students. The paper is illustrated by some excellent drawings. 2. Professor R. W. Schufeldt gives some Comparative Osteological Notes on the Extinct Bird Ichthyornis. 3. Dr. Cullingworth supplies a note on the Anatomy of the Hymen and on that of the Posterior Commissure of the Vulva. 4. Dr. Bertram Windle writes on the Myology of the Anencephalous Fœtus. 5. Other contributions are: Dr. E. W. Carlier: Histology of the Hedgehog, with a plate. 6. Dr. Hart and Dr. Gulland: the Anatomy of Advanced Pregnancy in Macacus Rhesus, with a plate. 7. Professor Alfred Eichholz: Morphology of Limb Arteries in Vertebrates, with especial reference to the Disposition in the Human Subject. 8. Dr. Joseph Tillie: Arrow Poison from New Granada. 9. Dr. David

Hepburn: Adductor Muscles of the Thumb and Great Toe 10. Mr. Jackson Clarke: Observations on the Temporal Bone, chiefly in Childhood.

## LIBRARY TABLE.

*Ueber Diabetes Mellitus.* (*On Diabetes Mellitus.*) Von Dr. KÁLLAY. Carlsbad: 1892.—The author of this pamphlet on Diabetes, who has had ample opportunities of observing the disease at the watering-place so much resorted to by sufferers from the malady, has executed his task with ndustry and thoughtfulness. Having sketched the history of our knowledge of the disease and entered with sufficient fulness into questions of physiology, pathology and chemical analysis, he comes to what may be regarded as most important from a practical point of view—its diagnosis, symptomatology and treatment. Dr. Kállay very cogently points out that the mere discrimination of a severe and mild variety of the disease is unsatisfactory, as we unfortunately frequently observe a diminished excretion of sugar accompanied by a grave aggravation in other important particulars. He inclines to the adoption of a classification into a primary and secondary form. In the former the saccharine urine, being unaccompanied by organic lesion, is to be regarded as a disease *per se*; whilst in the latter sugar in the urine, being merely symptomatic of organic disease, has not the importance attaching to its presence in the first instance. It is encouraging to learn from one having the author's opportunities for observation that primary diabetes appropriately dieted and under the use of the waters of Carlsbad is frequently greatly ameliorated, "nay, cured." Dr. Kállay discusses with a terse adequacy the symptomatology of the disease and closes his interesting pamphlet with practical observations on treatment, believing "that if we take all things into consideration, we must acknowledge that in Carlsbad we possess a sovereign remedy for diabetes mellitus which eclipses all others." This sentence indicates a tendency on the part of the author to bestow excessive praise on his own sphere of practice—a tendency natural no doubt, but none the less to be deprecated by the impartial critic.

*Das Augenleuchten und die Erfindung des Augenspiegels.* (*The Illumination of the Eye and the Invention of the Ophthalmoscope.*) Von ARTHUR KÖNIG. Hamburg und Leipzig. Pp. 154. Verlag von Leopold Voss. 1893.—This little volume is edited by Arthur König of Berlin and is the first of an intended series of republications of essays on the physiology of the sensory organs. It comprises six essays that will prove of interest to every ophthalmologist, since they record the successive steps by which the present form of the ophthalmoscope was evolved. The essays are by E. von Brücke, W. Cumming, H. von Helmholtz and C. G. Theodore Ruete, and each forms a landmark in the history of ophthalmology, those of Helmholtz and Ruete being the most complete and valuable.

*Annals of Surgery; a Monthly Review of Surgical Science and Practice.* Cassell and Co., Limited. February, 1893.—Although this is an international journal with two distinguished British editors, the material is chiefly from the other side of the Atlantic. Mr. Treves contributes a short paper on a method of treating Compound Fractures, the main elements of which are free exposure to the air and covering the wound with a dry antiseptic powder without stint. Intestinal Surgery is represented by a paper on Potato Plates for Intestinal Suture; a careful anatomical report on the Vermiform Appendix, and the report of a Discussion at the New York Surgical Society on Typhlitis. Some other papers and reports make up a very interesting number. A little more care in the proof-reading might well be exercised. We find "fæcus" for "fæces," "ilium" for "ileum," "three years," instead of "three days"; "300 miles" instead of (presumably) "300 yards."

*The Chemist's Legal Handbook.* By A BARRISTER. Published at the Offices of the *British and Colonial Druggist*, Bishopsgate-without, London, E.C. 1892.—Chemists and druggists will not be slow to appreciate the labours which have led to the compilation of this small volume, inasmuch as its publication places in their hands a useful work of reference in which the various statutory enactments affecting them may be consulted at a glance. More than this, it contains information bearing on the aspects in which the Acts, or sections of the Acts, have been treated in cases that have been actually tried. By adopting this course the judicial construction of the meaning of several of the clauses in the Act is made evident to the reader. Thus are treated the Sale of Food and Drugs Act, the Sale of Explosives Act, the regulation of the sale of poisons, the laws relating to the Medicine Stamp Duty, the legal qualifications of pharmacists, the Spirits Acts, the enactments in reference to the use of stills, and so on.

THE April number of the *Veterinarian* is interesting, if only from the fact that it contains such a full report of the proceedings of the various veterinary societies. In addition to these reports, however, there is recorded a Successful Case of Tracheotomy in the Horse. There also appears a note on "Broncho *v.* Pleuro—the Corn-stalk Disease—Verdict," from which it may be gathered that the opinion of the competent pathologists who have examined the specimens under dispute was that the animals were affected with pleuro-pneumonia. Mr. W. Littlewood, M.R.C.V.S., gives a short note on two cases of Guinea-worm, which he met with when in Japan. The paper and demonstration on the Anatomy of the Facial Sinuses of the Horse, given by Professor Macqueen before the Central Veterinary Medical Society, is full of interest, even to those outside the veterinary profession. From the point of view of the comparative pathologist some most interesting facts, upon which even many veterinary surgeons appear to have somewhat hazy ideas, are brought out. The Scottish Metropolitan Veterinary Medical Society appears to have had its meeting taken up with the Broncho-pneumonia *v.* Pleuro-pneumonia Question, many of those present not being willing to agree with the report presented by the referees. At a meeting of the North of England Veterinary Medical Association it was "unanimously agreed that five guineas be given to the funds of the British Institute of Preventive Medicine, this to be supplemented by further subscriptions from the members."

PROPOSED NEW FEVER HOSPITAL.—On Monday last a meeting was held at Herne-hill for the purpose of protesting against the erection of a fever hospital on a site which had been proposed at Redpost-hill, Herne-hill. The Local Government Board have refused their sanction to the Tooting site. After a good deal of discussion it was decided to ask for the use of the Camberwell Vestry Hall in order that a public meeting might be convened to discuss the question.

THE METROPOLITAN HOSPITAL.—The annual dinner in aid of the funds of this hospital was held on the 1st inst. at the Whitehall Rooms of the Hôtel Métropole, when the Duke of Portland occupied the chair and was supported by many distinguished friends of the institution. The discouraging announcement was made that, owing to the lack of funds, the number of beds had had to be reduced from seventy-eight to fifty-four. In 1892, 875 in-patients and 71,000 out-patients had received relief at the hands of the medical officers of the institution. Sir James Paget proposed "The Lord Mayor and the Corporation of London." In his remarks Sir James Paget said that from his certain knowledge a hospital was often a better place for a patient than a private house. The President, in proposing the toast of the evening, spoke of the advance which had been made in the construction and the general arrangements of hospitals. He also adverted to the increase of special hospitals and thought it was needful that care should be taken that the general hospitals should not be allowed to suffer on that account. The deficit in the funds of the Metropolitan Hospital amounted to £5000. In the course of the evening donations to the amount of £2218 were announced.

# THE LANCET.

*LONDON: SATURDAY, MAY 6, 1893.*


IN our remarks on the report of the Leprosy Commission in last week's issue we considered four of the six conclusions in which the Commissioners summarise the results of their observations and reflections. We now propose to consider the remaining two, marked Nos. 3 and 6 in the report.

In the one the Commissioners state that "although in a scientific classification of diseases leprosy must be regarded as contagious and inoculable, the extent to which it is propagated by these means is exceedingly small"; in the other they supplement this statement by alleging that in the great majority of cases leprosy originates *de novo*. In order to understand clearly what the Commissioners imply in these statements it is necessary to understand exactly what they mean by the use of certain terms. Following FLÜGGE, they consider that the mode of transmission of an infective disease, which they hold leprosy to be, depends on the faculty pathogenic germs possess of leaving the body of the diseased in the full possession of their power of setting up an infection. If thrown off in sufficient quantity and in a state to transmit the disease to a healthy person, the disease is "diffused by contagion"; but if the germs which are reproduced in the body of a diseased person never leave the latter, or leave it without the power of causing subsequent infection, the infective disease caused by such germs is not contagious. "The germs in such cases must have a place somewhere whence they can always *de novo* attack the healthy organism." To this definition of FLÜGGE they append a footnote, obviously with reference to leprosy, in which they state that when germs or spores, which when thrown off *may* effect contagion, are already become widely distributed throughout space the risk of contagion may be disregarded as compared with the *de novo* acquisition of the disease. When leprosy is endemic in an area they believe that three factors coincide—namely, the *contagium vivum* "in space" (the bacillus), a certain disposition of the individual, which makes him susceptible to the *contagium*, and those badly defined factors which they consider produce the predisposition. They assume that when leprosy is highly prevalent the bacillus is widely distributed throughout space in these endemic areas, and that such facility is offered for the acquisition of the disease *de novo* that contagion may be practically neglected, since all measures practised against it could not avail in stamping out the disease.

On general grounds and by analogy it is reasonable to suppose that a comparative predisposition to leprosy exists in certain persons; but although considerable space is devoted to the subject in the report, we have not been able to gather that it is distinguished by any features or characters that might lead to its recognition. In attributing the importance which they do to this special predisposition and to the factors which produce it, the Commissioners make a large assumption which practically begs the whole question which is being considered. It is notorious that strong healthy persons, with no apparent predisposition to any disease, from countries in which no leprosy exists, may, after a short residence in a district where lepers reside, carry away with them the seeds of the disease. The Commissioners confess that this assumed special predisposition is not hereditary, but in order to meet the question of leper families without having recourse to the theory of contagion, they assume that the factors in an endemic area cause the predisposition simultaneously or successively in the members of a household. This really amounts to believing that whilst in one hut or house factors exist which predispose its inhabitants to offer a fertile soil for the bacillus, these factors do not exist in dwellings situated a few yards distant. To accept such a belief seems to us to substitute the products of the imaginative faculty for reasonable inductions from observed facts.

The part of the report which has the greatest interest both for administrators and medical men is that which deals with the question of contagion, and on the answer that is given to that question will of course depend the views which legislators must take regarding isolation or segregation. In connexion with this question the Commissioners have shown extraordinary diligence and care in accumulating facts, and it is not their fault if the results of their industry have been such that the problem remains very much where it was before they entered on their researches. Although they report practically against the contagiousness of the disease, the statement is qualified in a manner which, to a considerable extent, deprives it of the force which they probably meant it to possess. The extent to which leprosy is propagated by contagion and inoculation is, they remark, "exceedingly small," an admission of the greatest importance, because it concedes that leprosy may, in certain instances, be communicated by contagion and inoculation. As against this mode of communication we have nothing but vague generalities about climate and surroundings, and as cases of leprosy have yet to be found in which contagion was not possible, it follows that the only mode in which leprosy is *known* to be spread is by contagion and inoculation. On the one hand we have, according to the report, an "exceedingly small" number of cases so produced; and on the other hand a large majority of cases produced in so-called endemic areas, we know not how. The presumption that most simple-minded people would make in such a case is that the cases of unknown origin were in every probability due to contagion.

In conclusion No. 6 the Commissioners have attempted to meet this objection by stating that leprosy in the great majority of cases originates *de novo*—that is "from a sequence or concurrence of causes or conditions dealt with in the report, which are related to each other in ways at present imperfectly known." Persons who read this sentence and who have not read the report would assume that these causes and conditions have been definitely stated. Those who read it will, we believe, like ourselves, find that there is no proof that leprosy arises from any such sequence or concurrence and have some difficulty in understanding in what these causes and conditions consist. The evidence in the report, such as it is, has not produced unanimity of opinion either in the Special Committee or the Executive Committee. Of the medical members of these committees Dr. HERON and Mr. MACNAMARA find that the evidence does not justify the Commissioners in reporting against contagion; whilst Sir ANDREW

CLARK, Sir GUYER HUNTER, Sir JAMES PAGET, Sir JOSEPH FAYRER and Mr. HUTCHINSON appear to agree with the Commissioners. Sir DYCE DUCKWORTH also appears to lay no great weight on contagion. This divided opinion must be regarded as unsatisfactory so far as immediate prospective legislation is concerned, but to some extent it was perhaps inevitable. The fact is that India, although affording an excellent field for the study of leprosy, clinically and pathologically, is extremely unsuited for deciding whether leprosy is or is not contagious. Those who, notwithstanding what we know of the bacillus lepræ, can still believe in the influence of endemic areas and the sufficiency of *de novo* theories can have little difficulty in accounting for all, or nearly all, the cases of leprosy that occur in India without the aid of contagion; whilst those who believe that leprosy can only be conveyed by the transference of the parasite from one individual to another, mediately or immediately, can account for every case of leprosy in India as the contagious product of an infective disease. As far as the definite study of contagion is concerned, it is to be regretted—although in the circumstances hardly to be avoided—that with the exception of some critical remarks regarding Norway the evidence considered was drawn almost entirely from India. The occurrence of new cases in countries or parts of countries where leprosy has not previously existed, and where the disease is not, even in a limited sense of the word, endemic, affords the only evidence regarding its contagiousness which can in any sense be considered crucial.

After all, what does this *de novo* argument amount to? As leprosy has existed in India from time immemorial the bacillus lepræ is assumed to be everywhere present "in space"—that is, of course, in the soil, or in the water, or in the air. When a person is properly predisposed to become the host of this universal parasite it takes root in his tissues and the disease has arisen *de novo*. How much of fact and how much of imagination is there here? We know that every leper harbours myriads of the parasite, but we have no proof that it ever exists in a living state anywhere else. The most praiseworthy and painstaking observations by the Commissioners failed to show the existence of the bacilli in water or in the dust of the huts of lepers, and they were found only in very small numbers in the soil constantly trodden by these unfortunate people, whose sores were teeming with the microbe. Although the absence of an initial lesion and the uncertain and long period of incubation (notwithstanding what the Commissioners write to the contrary) render it extremely difficult, and in most cases impossible, in a country like India, to tell when a given patient received the bacillus, we know that the conditions of life and the number of lepers who exist there always afford ample possibilities of transmission. Causes ought not to be multiplied beyond necessity, and with the bodies of living lepers teeming with myriads of living organisms it is quite unnecessary to postulate the existence, on a large scale "in space," of a parasite where it has not been demonstrated. But to those who from their studies of the spread of leprosy in other countries are prepared to find evidence of contagion in India the report supplies much confirmatory evidence. We are informed that in the whole population of India the proportion of lepers is five in 10,000—namely, $\frac{1}{20}$ per cent.; but the proportion of lepers in leper families is stated to be 4 per cent.—that is, eighty times more than in the general population of India. Now, as Dr. HANSEN has definitely shown, and as the Commissioners agree, that leprosy is not hereditary, this proportion in families leaves no alternative between believing in contagion and floundering amongst intangible subtleties of endemic areas and unknown predispositions. The Commissioners show that when seventy-nine lepers and 205 healthy people ate and drank for some time out of the same vessels 7 per cent. of the latter afterwards became lepers. Of persons living in daily intercourse with lepers, under the same roof at one time or another, 5 per cent. developed the disease. Amongst families of which one member at least was a leper, "in only from 5 to 8 per cent. at the most can the disease be said to have spread within the family." "Only," and yet not hereditary! That is to say, if we take it according to these figures, of persons living intimately with lepers about an average of 5 per cent. afterwards became leprous. If the same proportion prevailed amongst the general population all over India, instead of there being only 100,000 lepers we should have a population of 10,000,000 lepers. Well may the Commissioners, notwithstanding their statement that the extent to which leprosy is propagated by contagion "is exceedingly small," not hesitate to say that "the amount of ulceration which exists in both diseases (tuberculosis and leprosy) is to some extent a measure of the danger of contagion." We propose to consider next week the bearing of the report on the question of the segregation of lepers.

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THE Coventry Provident Dispensary, established sixty-two years ago, is one of the oldest, as it has been one of the most prosperous, provident dispensaries in England. At the time when it came into existence, in 1831, the membership was limited by rule to 2500. It has now a membership of 26,000 out of a population of 52,720. The medical staff includes six medical practitioners of the town, who number in all twenty-six. These six gentlemen received for their services last year the following sums: Mr. MCVEAGH, £274 15*s.* 8*d.*; Dr. FENTON, £312 16*s.* 3*d*; Dr. DAVIDSON, £367 19*s.* 9*d.*; Dr. PICKUP, £321 12*s.* 1*d*; Dr. HIRD, £347 9*s.* 6*d.*; and Mr. OLDHAM, £110 1*s.* 1*d.* In all they received £1734 14*s.* 4*d.* out of an income of £2943 5*s.* 6*d.* A medical institution of a thriving town that caters medically for half the population cannot be a matter of indifference either to the public or to the profession. The gentlemen in office possess the confidence and respect of the members. To a large extent such an institution is a domestic question which may be left to local settlement; but at the recent annual meeting a radical change of principle has been asserted in respect of the objects of the dispensary which seems to us a matter of concern to the profession at large. If we criticise this change it is in no unkind way, as we gather that even those who have promoted it do not intend any harm to the medical profession and are of opinion that none will accrue. In its beginning, according to the Mayor, this dispensary was intended for the use of those who could not afford to pay for the services of medical men. This was abundantly shown at the meeting by other speakers. Dr. FENTON, one of the staff, said this was a working man's institution, and one of the speakers, Mr. BILL, read in

interesting letter from one—the only surviving—of the pious founders of the institution, stating that it was founded for the benefit of the working classes and meant to supply them with immediate relief when struck with illness, and to moderate the expense of medical attendance. Both these objects, the writer said, were of a "philanthropic" nature. The change introduced is expressed in the following resolution, which was passed by a large majority in spite of very strong protests and speeches by those who wished to keep the dispensary to its original purpose as an accommodation to the working classes: "That this meeting resolves that, the dispensary being a self-supporting institution, the pecuniary position of an applicant for membership shall in future be no bar to admission."

This grave resolution was supported with very questionable arguments. One was that it would obviate any inquisitorial examination into fitness and circumstances, though it did not appear that any unreasonable ordeal of the sort had ever been practised. Another, and what its author thought a clinching, argument was that the members *paid* their medical staff *sufficient* for their services and there was an end of the whole matter. "This was the point," said Mr. ERRINGTON, in seconding the resolution, "the members *paid* for what they got." But do they? Mr. ERRINGTON takes it for granted. We decidedly join issue with him on that point. We deny that a working man *pays* in full for the medical service he receives from the medical officers of the Coventry Dispensary, or that the largest gross sum received by any one of its medical officers is adequate remuneration for the work done if its quality and the education which it involves have to be considered. It may be right, in such a profession as medicine, for men to take small sums for attendance on the working classes—considerations of benevolence and humanity compel them to do so. But it is a huge stride from such an admission to argue that a man of means who takes advantage of such an arrangement "pays" his medical attendant or that the committee of an institution for providing such arrangements for working people are justified in facilitating its shabby use by those who are able to pay more adequate charges. It is not accurate to say that those who oppose such arrangements being made for well-to-do people wish to deny them the advantages of coöperation. They wish to deny them the right of coöperation on inadequate terms and in an institution with £5000 worth of property bequeathed to the "Benevolent and Provident Dispensary." If such persons wish to enjoy the advantages of coöperation in an honourable manner let them initiate a new institution with membership on terms that recognise the worth of medical service; but to step into or remain in an institution which was meant for those who cannot pay medical practitioners the just charges of medical men is to sail under false colours and to treat with ingratitude and disrespect a profession to which they entrust their dearest interests and from whose members they exact high conduct and high qualities.

The promoters of this change have triumphed at a public meeting against the protests of a founder, of the president of the dispensary and of a member of the medical staff; but they have not closed the controversy or made the position more satisfactory. We cannot do better than conclude with some wise words of ADAM SMITH on this subject. If they be true, such tactics as those which have temporarily prevailed at Coventry, and which call for the serious attention of the medical profession and the public of Coventry cannot ultimately conduce to the reputation of provident dispensaries:—

"We trust our health to the physician; our fortune, and sometimes our life and reputation, to the lawyer and attorney. Such confidence could not safely be reposed in people of a very mean or low condition. Their reward must be such, therefore, as may give them that rank in society which so important a trust requires. The long time and the great expense which must be laid out in their education, when combined with this circumstance, necessarily enhance still further the price of their labour."

It seems to us that the members of the staff of the Coventry Dispensary owe to the profession and to themselves a very grave protest against the new doctrine which has been adopted by the majority of the members of their institution and which marks a departure from the benevolent principles of those who founded the Dispensary.

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AT the last meeting of the Royal College of Physicians of London an important report from the Committee of Management of the Conjoint Board was received and adopted. This report enumerated the medical schools and hospitals at which the curriculum of professional education may be completed, and it gave a lengthy synopsis of pharmacology for the third examination. The College is certainly to be congratulated upon having produced this synopsis just before the commencement of the summer session, since the range of the examination and the meaning of the term (as understood at the Examination Hall) have thus been authoritatively determined in time for the enlightenment of students and teachers. We have previously referred to the way in which the old examinations in materia medica and therapeutics are to be split up into practical pharmacy, pharmacology and therapeutics, and we have also indicated certain difficulties which might arise from the separation of pharmacology from therapeutics for the purposes of teaching and examination. In January, 1892, the College of Physicians approved of certain regulations relating to the several examinations and in these pharmacology was defined as meaning the "physiological action of drugs." Later regulations indicated that the subject of therapeutics was to form a part of the examination in medicine, and the undesirability of an examination late in the curriculum upon the physiological action of drugs was at once apparent. In this perplexity the Committee of Management sought the help of the examiners in materia medica and pharmacy, and all concerned are to be congratulated (with a small reservation) upon the excellence of the synopsis produced. This reservation depends upon two points—the first being the power of the College to substitute a new definition for the one which has already been approved and adopted, and the second, which is even more important, the power to wrest from a technical term the meaning ordinarily attached to it both in this country and also abroad. Pharmacology is, for the Examination Hall at least, to be regarded as the "action of medicinal agents on the body in health and disease." The principle underlying such a change in the meaning of a word is akin to that of LEWIS CARROLL, who long ago satisfactorily met the doubt, "Whether you *can* make words mean different things?" by the triumphant reply, "The question is,

which is to be master—that's all." The examiners and the Conjoint Board are in such a strong position that they certainly can, so far as students are concerned, make a term mean anything they like. If, however, pharmacology is to be defined or explained in this way, it might be interesting to have some guidance as to the meaning of therapeutics. The range of the examination is to be wide and comprehensive; it is to include not only the actions of the lengthy list of pharmacopœial drugs defined in the Schedule of Pharmacy, but also the use of heat and cold by both dry and moist methods, bleeding, leeching and cupping, and counter-irritation. This wide range is certainly an advantage to the student as a future practitioner, and we may be pardoned for a certain feeling of gratification in recognising that, consciously or unconsciously, by a little sleight of hand in dealing with a mere definition, an examination has been devised which corresponds very closely with the scheme long since advocated in these columns.

Beyond a doubt, under the old regulations the examination in materia medica was allowed to be taken far too early in the curriculum, and the idea was fostered that a knowledge of the actions and uses of drugs and other medicinal agents was relatively unimportant. The present synopsis of the range and scope of the examination may be regarded as a vigorous protest against the errors of the past, and, although we demur to the new meaning assigned to the term "pharmacology" as incorrect and unnecessary, we gladly welcome the indication that the examination is to be conducted upon strictly scientific and practical lines. It is needless to explain here in detail the scope of the examination, which follows the physiological systems closely and occasionally steps beyond them. It also includes the channels of absorption and elimination of drugs, the usual toxic effects of the more important drugs which produce symptoms of poisoning when employed incautiously or in overdoses, and further deals with the principles of dosage and with idiosyncrasy, accumulation, toleration and habit. It is possible to regard the "production of nausea" as a relic of past times before the knowledge of anæsthetics, and to feel some doubt about the conditions, other than those produced by toxic agents, under which the "prevention of sleep" is needful or desirable; but such misgivings will probably not be found to have any real weight in the working of the scheme. For the present, at least, we consider that the Royal College of Physicians has taken a step in the right direction and that the synopsis is calculated to prevent the baneful system of "cram" which has hitherto been so largely connected with this subject and to substitute an examination upon an intelligent, interesting and valuable branch of study.

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THE proper course to pursue when the contents of a strangulated hernia are found to be gangrenous was again the subject of discussion at the Royal Medical and Chirurgical Society on March 28th. A paper on this subject was read by Mr. KENDAL FRANKS of Dublin, who related a case which had occurred in his own practice and presented a table of 222 cases of gangrenous hernia in which resection of the bowel had been performed. The mortality in these 222 cases amounted to 48 per cent., whilst in a rather larger number of cases in which the surgeon had contented himself with making an artificial anus the deaths amounted to 80 per cent. Largely on this ground Mr. FRANKS urged that the old operation of LAWRENCE should be, as a general rule, abandoned in favour of immediate circular enterorrhaphy. This view was practically unanimously supported by the surgeons who took part in the debate, and it may be taken to be the view of the more advanced surgeons of the day.

A point of great importance in this discussion was raised by Mr. THOMAS SMITH when he stated that "gangrenous bowel" was a phrase which had a different significance to different surgeons. It is very difficult, even if it be possible, to say exactly when the bowel passes the line which separates recoverable from fatal congestion and stasis. All surgeons of experience have met with cases in which the congestion of the bowel has been so extreme that they have doubted whether the bowel was capable of recovery, but on returning it into the peritoneal cavity an uninterrupted convalescence has followed. This being so, the question naturally arises whether the cases in Mr. FRANKS' table are exactly comparable with those in which the surgeons have felt compelled to make an artificial anus and do nothing more. For our own part we should be inclined to answer this question in the negative. In many cases of gangrenous hernia the general condition of the patient is so bad that it would be impossible to submit him to such an operation as intestinal excision and suture; even the simplest procedure is often enough to extinguish the feeble spark of life. For these grave cases we cannot think that excision will ever be applicable, nor will any surgical measure avert death; but in the borderland cases and in cases of early gangrene it is different, and Mr. FRANKS' table shows that resection and suture of the bowel may under such circumstances be undertaken with a very great measure of success.

When the operation is determined upon, the question arises whether it is to be effected at the site of the hernia or through a median abdominal incision. In umbilical hernia, of course, these are one and the same. In inguinal hernia the herniotomy wound will generally afford ample room, but in femoral hernia the limits of the crural canal are so narrow that it may be necessary either to divide Poupart's ligament or to make an anterior abdominal incision. BORELLA of Novaro reported such a case about a year ago, but the ordinary laparotomy wound gives much more room and in many cases would be preferable. Any special clamp may be dispensed with whenever a good assistant is available. The excision of the bowel must be free, but care should be taken to divide the bowel on the upper side, wide of the gangrenous part, so that the stitches shall be made in healthy tissues and not be liable to slough or cut their way out. Great care ought to be taken in every case not to infect the peritoneum from the sloughy hernial sac. All the morbid tissues should be removed before the parts at the neck are much disturbed, and the antiseptic douche should be freely used. To ensure success in an operation of this kind adherence to the following four rules would seem to be necessary—viz., (1) Do not infect the peritoneum from the hernial sac, (2) excise the bowel well above the gangrenous part, (3) unite the two ends of the bowel securely with a strong fine aseptic suture, and (4) operate expeditiously; time is of importance, especially if the patient is suffering from collapse.

One statement made in the discussion is so remarkable that it deserves special notice. Mr. BOWLBY stated that, taking all the operations for strangulated hernia performed in St. Bartholomew's Hospital during the last ten years, they showed a mortality of 40 per cent. It would be interesting to know to what this very high death-rate is to be ascribed.

THE port sanitary authorities of England and Wales have evidently no intention of letting their demand for assistance from the Imperial funds lie at rest because of the first refusal with which it has been met. We anticipated from the onset that their request would be met as it has been, and we are bound to confess that very substantial difficulties are involved in satisfying a demand for pecuniary assistance in the performance of the sanitary duty of coping with cholera during the emergency which has arisen; but if anything beyond the appreciation of the nation at the manner in which the port authorities have, as a rule, performed their duties in this respect could aid those bodies in attaining the desired end it would be the hint which the Chancellor of the Exchequer quite unwillingly gave them as to the ground on which the application might properly be based. His contention was that the demand was "absolutely new in principle," and he harped on this again and again during the course of his speech. We may therefore assume that, in his view, it would have been different if the principle had already been conceded and if any such practice was already in operation.

Now this is precisely what is at this very moment in progress, it is precisely that which has all along been maintained in this country, and to follow out Sir WILLIAM HARCOURT'S reasoning the deputation have only to ask him to extend an admitted and long-continued practice. The deputation referred to one of the foreign diseases which at intervals threatens our shores—namely, cholera. But what is the actual practice with regard to yellow fever, another of the same class of diseases? In order to protect our shores and our commerce there is maintained out of the Imperial funds a whole system of quarantine; vessels lie off our shores which are manned by a staff maintained at the Imperial cost, and all the administration of these vessels and their necessary adjuncts are, so far as we know, paid in the same way. In short, the prevention of yellow fever is wholly paid by the Imperial exchequer, whereas the port sanitary authorities only ask for part payment for the prevention of cholera.

We are not here discussing how far one or the other system is the right one. We have on more occasions than one expressed the opinion that yellow fever ought to be dealt with by our sanitary authorities, and that our pretence of maintaining a quarantine system ought to be swept away. We are merely considering the reply of the Chancellor of the Exchequer, of whom further answer might well be sought as to how he can reconcile his statement to the effect that he "was staggered at the propounding" of such a principle as was involved in the demand for Imperial help in the matter of cholera with his habitual payment for the maintenance of a system which professes to be complete in itself and which has to do with the control of yellow fever, as also of plague, that may reach our ports. If it be a fact that in the view of the Treasury it is part of the normal expenditure of a port to meet "on an average of years any contingency" involved in its foreign trade, then Sir WILLIAM HARCOURT should at once apply his own principle to other foreign diseases than cholera and to the emergencies they create. If, on the other hand, he either does not know what is going on or really believes that the great objection to compliance with the demands of the port sanitary authorities is that these demands involve an "unprecedented principle," the sooner he is undeceived the better. The port health officers not long ago endorsed the view that all disease-prevention at our ports should be in their hands subject to the Local Government Board. We believe they were right in expressing this opinion, and the authorities under whom they hold office have now an additional ground for urging upon the Government either to concede this principle to them or to act upon the well-known precedent of the use of Imperial funds for the prevention of foreign diseases and to grant them the aid which they ask in connexion with their cholera work.

# Annotations.

"Ne quid nimis."

## CONTEMPLATED POSTPONEMENT OF THE INTERNATIONAL MEDICAL CONGRESS.

FROM Rome, under date the 1st inst., our own correspondent writes: "I have to make the rather serious announcement that the International Medical Congress, arranged to hold its sittings from Sept. 24th till Oct. 1st, may possibly have to be postponed. No actual decision has yet been taken, but at recent meetings of the Organising Committee a section of that body was of opinion that 'in sequito alle condizioni sanitarie di alcune regioni d' Europa' (in consequence of the sanitary state of some parts of Europe) it would be advisable to hold the Congress at another season. It was feared that, on account of the 'condizioni sanitarie' referred to, many physicians and health officers whose presence at the sittings was of supreme importance might be unable to attend. The postponement of the Congress would equally involve that of the 'Esposizione Internazionale di Medicina ed Igiene' to be held at the same time. This, as I have said, would be a rather serious step to take, and next week I hope to be able to announce that the fears that have suggested it are so far unfounded and that the postponement in question will not be carried out. Arrangements, like those already completed, of a complicated kind and on a world-wide scale are not to be lightly set aside, unless by the *force majeure* of exceptionally grave and quite unforeseen circumstances—circumstances which do not seem to have occurred, as yet at least, in any of the great centres of European population. Certainly the full and carefully authenticated reports of the public health of Great Britain and the Continent, given in THE LANCET of the 29th ult., furnish no ground for alarm at the 'condizioni sanitarie' of any part of Europe in the immediate present. Meanwhile the 'adesioni' of representatives of foreign medical schools and official sanitary boards continue to reach the Organising Committee. The University of Madras announces its cordial alacrity to intervene at the Congress, reserving till a future date the name of its delegate. The French Société de la Médecine Légale, whose headquarters are in Paris, has forwarded an announcement to the same effect; whilst the Antwerp Association of Medicine has nominated its representative in the person of Professor Leroy. The medical school of that city will further have a delegate appointed by the Minister of Public Instruction. Railway and steamboat com-

panies, in addition to those already enumerated, have intimated their readiness to convey the 'Congressisti' to and from Rome at reduced fares, and Signor Martini, the Minister of Public Instruction in the Italian Government, has, in concert with the directors of the national museums and galleries of archæology, sculpture and painting, provided the members of the Congress with special facilities for visiting the same. The excavations now in progress at Pompeii will also be thrown open to members on simply producing their Congress ticket. Considering the maturity that these and a thousand other arrangements for the convenience of the 'Congressisti' have already reached, to say nothing of the fact that delegates from the Antipodes are already on the eve of starting for Rome or have adjusted their engagements *ad hoc*, it seems hardly fair to contemplate the postponement referred to, except on grounds of greater gravity and precision than those just indicated."

## EXPERT WITNESSES.

IT is, we observe, stated in the *Law Journal* that Mr. Justice Grantham has recently taken occasion to observe that he may "on some future occasion" order medical expert witnesses out of court whilst their scientific brethren are giving evidence. What sort of contingency the learned judge had in his mind when he thus sketched out a possible course of action does not appear, and we do not find it easy to supply the omission from imagination; and, indeed, we will not take it upon ourselves to say that circumstances might not arise to justify such a course. It should, however, be made quite plain to the judicial mind that it is not a course to be adopted upon a slight occasion. We have always supposed that the object of ordering witnesses out of court was to make it difficult for them to tell coherently a fabricated story, and we should hope that the occasions are few indeed and very far between that would warrant so odious a suspicion as that the medical witnesses in a trial were capable of colluding to fabricate scientific evidence. On the other hand, it is a very natural and a very proper thing that the evidence of opinion which an expert is generally called to furnish should be modified in some greater or less degree by similar evidence that has gone before. It would argue not superior skill but inferior attainments that a man should be so settled in his own opinion as not to be moved therein upon hearing an opinion contrary to his own seriously advanced by another person competent to judge of the matter in debate; and when experts are called on both sides in a case it should be borne in mind that those who are opposed to one another cannot have had any opportunity of private conference, so that the evidence which they give, if given in the presence of one another, is, in effect, a consultation held in presence of the court and for the benefit of the court. To take the evidence in their absence would be to throw away all the advantage of consultation over the mere collection of uncollated opinions and to quench the light that results when an instructve suggestion struck out by one mind is reflected from another trained to sympathetic response within a sphere of action that is common to them both but somewhat strange to the unscientific or even non-medical mind. Nor is this most legitimate action of one mind upon another the only thing that has to be considered in this connexion. Our legal contemporary says: "The only inconvenience that would result from the exclusion of medical experts from court whilst their colleagues were giving evidence would be the impossibility of confining the examination-in-chief of merely corroborating witnesses to a simple expression of agreement with the testimony of those that had gone before them." We can well understand that from the point of view of counsel conducting a case this is a full and sufficient account of the matter, but from the point of view of a witness who desires to "tell the truth, the whole truth and nothing but the truth" it wears a very different aspect. Especially is this so in reference to those debatable matters in connexion with which one medical witness may be called to contradict another—the proverbial case of the doctors' disagreement. It is of the greatest importance that an expert witness who is called to disprove what another expert has proved should know with precision what the position is that he is called upon to attack; otherwise he may be made to appear to contradict what he is in truth maintaining. An illustration will make this plain, and we purposely choose a simple one—one too simple, perhaps, to occur in practice, but which will indicate the kind of thing that does constantly occur. Suppose a case of morphia poisoning. Dr. A. is asked whether thirty grains is not a fatal dose of morphia and he answers that it is. He or somebody else proves that the deceased took this full dose of morphia. Then Dr. B. is called and asked whether in his opinion the death can be attributed to that dose of morphia. He says confidently, "No." Can there be a clearer case of contradiction? Yet there may be no contradiction at all. Dr. B. may know what Dr. A. was unaware of, that the deceased was habituated to the use of morphia and accustomed to take much larger doses than the one named with comparative impunity. One witness spoke of the action of the drug in an ordinary case, the other of its action in an abnormal case, and the apparent contradiction arose only from the difference between the implied postulates in the one instance and in the other. If the second witness had heard the first witness's answer, he would have understood it at once—there would have been no contradiction and the important fact of a morphia habit would have been explained; instead of which, upon the hypothesis, we have actual confusion and apparent conflict, such that probably the medical evidence would be worthless to both judge and jury, who would be left to decide the issues with no better guidance than their own chance study of poisons might happen to afford them. There is sometimes a little disposition to resent the garrulity of the Bench, but it is not altogether without its compensations, for when judges contemplate new departures of the sort now under discussion it is much better that they should explain and have them discussed before acting upon such impulses than afterwards.

## THE PREVALENCE OF SMALL-POX.

THE towns from which the largest returns as to small-pox have been received are as follows. Birmingham had 22 fresh attacks last week; some 50 cases are under treatment in the small-pox hospital and the question remains as to how far the hospital itself serves as a centre of infection. From Bradford we hear of 20 new cases. Halifax had no less than 35 fresh attacks, and there are now about 100 patients under isolation in the small-pox hospital. In Manchester the disease is still maintained, 33 fresh attacks being recorded. The actual number of new cases in Leeds is not known, but it is evident that a somewhat rapid extension is taking place, for with 138 patients already in hospital it is feared that the existing accommodation may at any moment run short, and hence the erection of hospital tents has been ordered. It is also surmised that the aggregation of small-pox cases in hospital is not without effect on the spread of the infection. In the villages of Dore and Totley in Derbyshire there is likewise an exceptional prevalence, some 50 persons having been already attacked. In Warrington the disease still continues, 15 fresh cases having been announced last week. Amongst other places where the disease is prevailing or has appeared are Bedford, Bristol, Bingley, Bolton, Bootle, Burnley, Chadderton, Coventry, Dewsbury, Durham, Eccles, Ebbw Vale, Farsley,

Greenwich, Gosport, Hull, Heston, Handsworth, Huddersfield, Keighley, Longton, Middlesbrough, Nelson, Newcastle, Nuneaton, Northampton, Oxford, Pontefract, Rawtenstall, Salford, Sheffield, Smethwick, Sittingbourne, Shepton-Mallet, Staniland, South Shields, Swansea, Todmorden, Wakefield, West Ham and York. With regard to the metropolis matters are distinctly ominous. We always anticipated a somewhat rapid rise at this season, and as a matter of fact the last week's returns fully support our fears in this respect. Not only are more than 480 cases of small-pox under treatment by the Asylums Board either in the hospital ships or at Gore Farm, but the daily number of fresh attacks has bordered on 40, and considerably more than half the metropolitan unions are sending cases to hospital. We have during the next few weeks to face the greatest danger of small-pox diffusion, and when this period is over we shall still, if precedent be followed, have in prospect the renewal of the epidemic next year.

## CERTIFICATES OF DEATH GIVEN BY AN AMERICAN GRADUATE.

AN inquest has been held at the Town Hall, Chelsea, at which "Dr." Ashby, purporting to be a graduate of Cincinnati, was examined as having given a certificate of the death of an infant, William Charles Robins. He excused himself for giving such certificates by saying that he always put after the letters "M.D." the letters "U.S.A.," and that he marked out the word "registered" before practitioner. A certificate was produced in which the word "registered" was not very clearly marked out and another on which the letters "U.S.A." did not follow the letters "M.D." "Dr." Ashby made other remarkable statements, such as that he had written to the Registrar-General as to marking out the word "registered," who replied that he saw no objection; further, that he had communicated with Mr. Gladstone, General Gordon and others with respect to his privileges and had been assured that they would not be withdrawn; and last, though not least, that, in cases of any difficulty, he called in a qualified practitioner. These statements should be further elucidated, and would not be unworthy of the attention of the Select Committee which is at present investigating the subject of the Certification of Deaths.

## "MONOTONY" IN ITS PATHOLOGICAL ASPECTS.

AN incident in the perennial conflict in Germany between the State and the Roman Catholic Church has evoked from Count Paul von Hönsbröch a very remarkable paper, which, altogether apart from its political bearing, has interest enough, pathological and psychological, to merit special notice. He has set himself to explain why he renounces his allegiance to the Order of the Jesuits, and in the *Preussische Jahrbücher* of April he assigns as one out of many causes the rigour and monotony of the discipline enforced by its rules. From the first day of his novitiate the young Jesuit is, so to speak, run into a mould from which he is ultimately to emerge a mere passive instrument of the mission work of the Order. Into the character of that work it is outside our province to inquire, its influence on the world for good or bad must find its assailants or apologists elsewhere. What concerns us now is the effect wrought on mind and body alike by steady, monotonous pressure applied day by day, week by week, month by month, year by year, till spontaneous movement, physically or mentally, has become impossible, and the subject—or shall we say the victim?—of the treatment is reduced to an automaton. Its success, so dearly purchased, in the Order itself has more than justified the policy of its initiator, Ignatius Loyola. The mesmerised or "hypnotised" patient, according to Count Paul von Hönsbröch, is not a more perfect tool in the hands of his manipulator than the thorough-paced Jesuit in those of the General of the Order. He lives, moves and has his being simply at the behest of his superior, and, whether as a proselytiser *in partibus* or a secret agent in the politico-religious game, he responds to the demands from those above him with a fidelity and an efficiency attainable under no other system. Curiously enough, Count Paul von Hönsbröch's experience coincides precisely with that of a very different deserter from ecclesiastical authority—the well-known Count Campello, whose published reasons for his having ceased to serve as a Canon of St. Peter's anticipate almost word for word those of his German counterpart. Campello has put on record that the daily monotonous exercises of the Basilica, repeated morning and evening without break from year to year, were paralysing his powers bodily and mentally, to the destruction of all initiative in thought or action; so true it is that unvarying, continuous pressure applied to the individual placed in one groove must in the end prove fatal to all elasticity of tissue or of function till the result is seen in the paralysis of both. In a minor degree the process against which these two distinguished ecclesiastics rebelled—neither of whom is wanting in appreciation of what he conceives to be the better side of the Order he has left—is experienced in every walk of life where freedom is curtailed by formalism and where rules laid down for general guidance are observed with so literal an allegiance that they become the impediments rather than the auxiliaries to independent action. In "social pathology," as the increasing complexity of institutions necessitates their differentiation and their demarcation into separate and self-contained departments, this danger tends to become more and more a reality, to be guarded against by that "variety in uniformity" which nature herself prescribes not more by direct inculcation by the admonition of mental or physical lesion as often as it is disregarded. The "instinct towards change" providentially implanted in our "organic consciousness" (to use Dr. Maudsley's pregnant phrase) saves many of us in our work-a-day routine from the paralysis complained of by the ecclesiastics whose testimony we have cited. It insists, indeed, on its gratification with an energy proportioned to the rigidly repressive treatment the routine in question is so apt to impose.

> "Nothing in this world is single.
> All things, by a law Divine,
> In one another's being mingle,"

says the greatest of nineteenth century poets, and it is the defiance of this law in an artificially induced isolation that turns the ascetic precisian so often into the monomaniac and explains why an iron discipline, unrelieved by "alteration of pressure" or change of environment, so frequently impels to suicide the victim of monotonous militarism or of that monastic rigour to which it is so strangely akin.

## THE SURGICAL TREATMENT OF CHOLERA.

FIVE cases have up to the present time been published in which cholera was treated surgically. A Belgian physician, M. Lambotte, operated upon two patients last autumn. The abdomen was opened in the middle line, and the bowel sewn to the wound, incised and flushed out with a solution of corrosive sublimate (1 in 3000) by means of an indiarubber tube one metre long. Both patients died. A Russian physician, M. Meerovitch of Ekaterinodar (in the Kuban province of the Caucasus) now claims priority. He operated upon three patients last August, and has published an account of his cases in a recent number of the *Vratch*. His method was slightly different from that just described. Only a small puncture was made into the bowel, which was not stitched to the wound. From 2000 to 3000 grammes of a solution of tannic acid were injected in two of the cases and 4000 grammes of a solution of thymol in the third. In all three cases there was a fleeting improvement in the symptoms, but all the patients died, one in less than twenty-four hours, one in twenty-eight hours and the third from pyæmia twenty-two days after the operation.

M. Meerovitch is not discouraged by these results. He attributes his want of success to errors or deficiencies in the method adopted and seriously proposes a yet more radical course. He would open the bowel in two places, close to the duodenum and in the cæcum, and, stitching the lips of the intestinal wounds to those of the abdominal wounds, would arrange for a *continuous* flow of some weak antiseptic solution from the upper to the lower opening. It is to be hoped that this suggestion will remain in the region of speculative possibilities and will not be put to the test of practice. To add to the dangers of cholera those of even a single opening into the bowel is a proceeding the propriety of which must be gravely questioned, and the results of which have up to the present proved uniformly fatal; but the proposal to multiply the danger many times by making two openings into the bowel and by constantly irrigating the absorbent surface of the intestine with an antiseptic solution carries its own condemnation with it. The risks of sepsis, exhaustion and poisoning by the absorption of the antiseptic—risks that would have to be prolonged over a considerable period—would be added to the shock of a double laparotomy. The further necessity of a double operation to close the intestinal fistulæ after recovery need not be seriously considered.

## THE INCONVENIENCE OF STREET BARRIERS.

IN these days we see and hear but little of the erection of new gates and bars across our street thoroughfares. Either we value less than those of a former generation the dignified seclusion which is the only and questionable advantage gained by the use of such obstructions, or, what is more probable, we cannot submit to the delays and inconvenience they impose upon all but pedestrians in the matter of road communications. Whatever be the reason, it is a sign of the time, and one to be regarded with special favour by members of the medical profession, that roads everywhere are becoming less hampered by prohibitory woodwork of this kind than they have been. There are few circumstances more likely to try the patience of a busy practitioner than that he should find himself not yet near the house of some patient, yet obliged to alight, and go and come again on foot, because for the comfort of some quiet-loving people a gate or a line of posts has been placed across his route. Such a barrier was removed a few days ago in Gower-street. Others, which have made a labyrinth in the Highbury district, are already doomed. Their disappearance need excite no regret, but must for several reasons give rise to lively satisfaction. Seclusion does not belong to the natural privileges of town life. Quiet, when desired, is obtainable by other means, and every purpose of communication, road service and sanitation can better be maintained in a thoroughfare which is entirely public than in one which constitutes a species of private property.

## THE KNEE-JERK.

DR. SHERRINGTON has contributed to the Proceedings of the Royal Society a paper of great interest in reference to this much-discussed phenomenon. The same observer recently pointed out in the *Journal of Physiology* that the muscular part of the mechanism consists of the vastus internus and part of the crureus divisions of the quadriceps extensor of the thigh. In the Rhesus monkey the spinal centre was found to lie in the fifth and fourth lumbar segments of the cord, corresponding to the fourth and third in man. The efferent path was found to lie in the fifth and fourth lumbar nerves and was traceable in the anterior crural nerve to the muscles in question, whilst the afferent path was found to lie in the posterior root of the fifth lumbar and possibly to a small extent also in the fourth lumbar root. This fifth posterior root runs in fibres from the obturator nerve, the anterior crural, the external and internal popliteal nerves, and also from the branch of the sciatic nerve distributed to the hamstring muscles, conveniently named the "hamstring nerve"; but of all these fibres only those from the anterior crural nerve form the afferent path on which the jerk depends, and in the anterior crural nerve only those fibres which issue from the vastus internus and the crureus muscles. Various methods were resorted to in order to test the conductivity of this root—e.g., severance, partial or complete, and cooling by the indirect application of ice and salt, by carbonic acid vapour and the application of cocaine; and by lowering the conductivity of the posterior root by such means it was found that the knee jerk could be abolished, even if conductivity was not impaired to such an extent as to make the transmission of skin impulses impossible. Thus, merely lifting the posterior root by a thread will often suffice to prevent the jerk from being obtained, whilst the afferents of tactile sense are not obviously impaired in their function. Dr. Sherrington also found that excitation of the central end of the divided hamstring nerve at once abolished or greatly reduced the briskness of the jerk. In the paper already alluded to he had pointed out that the jerk could be rendered brisk by section of afferent or of efferent spinal roots immediately below those on which the jerk itself depended. The explanation then offered was that it depended on the fact that the tone of the hamstring muscles was abolished by section of the afferent roots belonging to them. By a series of ingenious experiments described in the paper this explanation is confirmed and expanded. The fact was pointed out by Tschiriew that severance of the great sciatic nerve produces increased briskness of the jerk, and this Dr. Sherrington finds to depend upon the section of that part of the sciatic nerve which he has called the hamstring nerve; from the experiments already alluded to he thinks it clear that this exaggeration is not the result simply of muscular relaxation, leaving the joint mechanically free to move, but of an interruption of a stream of centripetal impulses passing up from the hamstring muscles and exerting a depressing or restraining influence upon the jerk. He also finds that a stream of impulses, similarly efficient, can be set up by stimulation of the central ends of the divided nerves of the hamstring muscles or by simply stretching or kneading the muscles when they are released from one of their fixed points, or, finally, by throwing the muscles into contraction by excitation of motor roots supplying them, so long as the sensory roots remain intact.

## THE ASSOCIATION OF FELLOWS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A MEETING of the committee of the Association of Fellows of the Royal College of Surgeons of England was held on April 26th at 5 P.M. The President (Mr. George Pollock) occupied the chair and was well supported. The minutes of the last meeting were read and confirmed. Letters of regret for inability to attend were read from Mr. A. T. Norton, Mr. George Jackson (Plymouth), Mr. Vincent Bell (Rochester) and others. The honorary secretary read a letter from Mr. C. N. Macnamara accepting the invitation of the committee to stand as a candidate for re-election to the council of the Royal College of Surgeons in July next. Letters were also read from Mr. Oliver Pemberton and Mr. Mayo Robson. Mr. Pemberton wrote in answer to questions addressed to him by the committee, and Mr. Mayo Robson expressed his willingness to offer himself as a candidate for the council of the College at the ensuing election in accordance with the wishes of the Committee. A telegram, however, from Mr. Mayo Robson was subsequently received intimating a doubt as to the advisability of his candidature on the present occasion, and the honorary secretary was instructed by the committee to say, in reply, that they did not see any reason for changing their views notwithstanding the considera-

tions that Mr. Mayo Robson had advanced. In reply to a question, the honorary secretary stated that he had referred to the minutes of the committee and had found that Mr. Oliver Pemberton sent in his resignation as a member of the Association in April, 1890; and under these circumstances doubts were expressed by members of the committee as to the possibility of the committee affording an active support to any candidate who was not a member of the Association or going beyond the attitude of a benevolent neutrality. The further discussion of the relative claims of the respective candidates, so far as the support of the Association was concerned, was postponed till the next meeting. Meanwhile the honorary secretary was directed to acknowledge Mr. Oliver Pemberton's letter and to thank him for the expression of his views on the topics mentioned by the committee in their recent communication. The honorary secretary reported that so far his appeal to the members of the Association for the payment of arrears of subscription had been satisfactorily responded to. The next meeting of the committee was fixed for May 17th. This concluded the business of the meeting and the committee adjourned.

## EXHIBITION OF HUNTERIAN RELICS.

As this year is the centenary of the death of John Hunter, the father of English surgeons and the founder of scientific surgery, it has been decided, as we have already announced, to have an exhibition of Hunterian relics at the Royal College of Surgeons of England on July 5th. In addition to the articles which are the property of the College many very interesting relics have been promised by their present possessors for exhibition. A number of interesting letters will also be shown, including several from Hunter to his pupil, Edward Jenner, M.D. Oxon., who, after great opposition in 1796, introduced the practice of vaccination into the London hospitals, the army and navy, and gradually all over the world. The courteous and indefatigable librarian of the College, Mr. J. Blake Bailey, will be pleased to give further information about the exhibition to any one willing to lend articles relating to the great surgeon.

## OVER-PRESSURE IN ITALIAN SCHOOLS.

FORTUNATE in her Minister of Public Instruction—Signor Martini—Italy has reason to congratulate herself that under his auspices she is just checking in time an evil she had imported from those other countries whose example she is prone too blindly to follow. That evil is "over-pressure in schools," one which, considering the leeway she has to make up in education, she was extremely liable to incur. In the recent debate in her Chamber of Deputies on the estimates for public instruction Signor Martini made use of these words: "We are forgetting division of labour. In our schools we are swallowing much and digesting little. The secondary school ought to stir the intellect and inspire the soul with the love of culture. We have enlarged our programmes, but the cerebral convolutions have not been enlarged *pari passu*. Whilst the able-bodied artisan demands the restriction of his labour to eight hours we exact from our boys of ten a labour at once more prolonged and more severe." These "dichiarazioni" are well called "scultorie" (monumental) by more than one of our Italian contemporaries, who whilst amply acknowledging the backwardness of education in the peninsula are all the more urgent in sounding a note of warning against the dangers which too enthusiastic Ministers of Public Instruction have courted. These statesmen have ignored the teachings of elementary physiology, which indicate for the growing boy continuous exercise out of doors and pure air in school, a larger allowance of sleep than is necessary for the adult, and again pure air in the dormitory. Under the system they have favoured, the urchin of ten remains physically quiescent in school for five or six hours on end, during which his brain is on the stretch and appropriates for itself an abnormal blood-supply at the expense of the other viscera and to the impairment of the organism. The system has just been long enough in force to awaken the attention of the public to its evils, intensified as they are by the lower standard of living, the poorer fare, the less comfortably appointed dwellings and the inferior clothing prevalent in Italy as compared with England or even with France. It is from the experience of these countries, of England especially, that Italian hygiene is now drawing its suggestions for school reform and is seeking to introduce a physiologically regulated balance between the brainwork exacted from the boy and his power of overtaking it beneficially and without distress. The minimising of tasks to be executed after school hours, the reduction of all inducements to prolong mental labour beyond the just limit, the discouragement of overstrain due to excessive competition, are directions in which Signor Martini is striving, prudently and practically, to bring about a healthier educational regimen in Italy. The Swiss Rousseau, with the aptitude for pupil-training of which his country has given so many proofs, contended that it was far more satisfactory to see a boy well grown, tall and robust than weakly, pale and half developed, with double the knowingness proper to his years, and his preference of the former to the latter finds yearly more acceptance as the demands of civilisation and the competition they encourage become more imperious and hurtful. In Italy accordingly the multiplication of subjects now required of the boy is being curtailed; schools are developing, as in England, their "modern side"; more thoroughness is secured by the sacrifice of greater diffusion, with the result that (as an Italian hygienist says) "the week has altered its character so far as the schoolboy is concerned. In the first three days promptitude, alacrity and efficiency are no longer succeeded by a second three of languor, depression and scamped work. The lessons are as welcome and as profitable at its end as at its beginning." We shall watch with interest the experiments now being initiated by Signor Martini to obviate the evils of over-pressure by the remedies first proposed in England.

## SYRINGOMYELIA.

DR. LLOYD of Philadelphia has recorded in the Medical Magazine of the University of Pennsylvania a case of this curious and interesting malady. The case has great interest because it was recognised as syringomyelia on admission to hospital and was carefully investigated clinically; whilst unexpected death two months later through pneumonia afforded an opportunity for the verification of the diagnosis. The patient was a man thirty-one years of age, who had enjoyed good health until the winter of 1888, when, after a severe storm, he had suffered from swelling of the right ankle, which was regarded as rheumatic. He noticed afterwards that in walking he stepped on his toes and that his shoes were worn on the anterior part of the soles. There was nothing significant in his family history and his personal history showed no evidence of alcoholic indulgence or syphilitic taint. On admission, the arm muscles on both sides showed distinct atrophy, and there was associated with this considerable increase of myotatic irritability. Some of the wasted muscles in the upper arm and forearm presented fibrillary contractions, but there was no distinct atrophy in the leg muscles. The knee-jerks, however, were exaggerated and there was foot clonus. The faradaic reactions in the wasted muscles were normal, and to galvanism the cathodal closing contraction was greater than the anodal in the leg muscles. In a few of the arm muscles there was a qualitative change to galvanism. The spastic condition of the limbs was more marked on the right than on the left side. As regards sensibility, the patient presented a typical picture of the "dissociation.

symptom" regarded as characteristic of syringomyelia. There was thermo-anæsthesia, especially in the left arm above and below the elbow and on the whole of the left leg both anteriorly and posteriorly, and also upon the back. Loss of sensibility to pain was present over the same areas, except on the back. Small areas of anæsthesia to ordinary tactile stimuli were also present on the neck, shoulders and front of the waist. On the right thigh there was hyperæsthesia. There were also scoliosis and weakness of the neck muscles, so that the patient was unable to support his head uprightly. As regards trophic disorders, the right ankle was enlarged, the arthropathy being apparently similar to that which occurs in locomotor ataxy and which is especially associated with the name of Charcot. The toe nails were deformed and brittle, and the patient stated that several had dropped off. There were also deeply pigmented maculæ on the legs, probably of the nature of trophic skin changes. No mental changes were observed and no symptoms of bulbar disease. The patient was weakened by an attack of dysentery about a month after admission, and a few weeks later he died of pneumonia. At the necropsy the cord was found to present the appearance described as characteristic by Bruhl. The cervical enlargement was broadened and flattened, and on section a large central cavity was found beginning in the lower part of the medulla, broadening out in the cervical region and extending into the dorsal region but stopping short of the lumbar. Around this cavity great destruction of the normal constituents of the cord in the cervical region had taken place more on the right side than on the left. Microscopical examination showed the presence of what is called a gliomatous tissue around this cavity, the grey matter was much altered in the cervical region, and the crossed pyramidal tracts were degenerated all the way down the cord. The paper is illustrated with diagrams and drawings, and also with micro-photographs of sections at different levels and is complete and most carefully prepared. Dr. Lloyd seems to share the most generally accepted opinion as to the etiology of these cases—viz., that they depend upon a proliferation of embryonal tissue remaining in that region of the cord in which the medullary folds in the embryo close over the central canal.

## INJURIES CAUSED BY "VIOLENT, ACCIDENTAL, EXTERNAL AND VISIBLE MEANS."

AN important case to all who are insured against accident was decided by the Master of the Rolls and Lords Justices Lopes and Smith in the Court of Appeal on the 27th ult. A shopkeeper named Hamlyn stooped to stop and pick up a marble which a small boy had dropped and which was running along the sloping floor of the shop. In stooping his knees were bent in an outward position and were somewhat widely apart, and in rising he felt something "give way" in one knee. He at once became lame, synovitis set in, and he was at first totally and then partially disabled from carrying on his business for some weeks. He was insured in the Crown Accident Insurance Company and made a claim for damages, which were fixed after arbitration at £60. This claim was resisted by the company, mainly on the contention that the injury in this case was not caused, in the words of the policy, by "violent, accidental, external and visible means," but the judge who heard the case at the assizes at Bodmin directed the jury to find for the plaintiff, and his judgment has now been declared by the Court of Appeal to have been a right and correct one. The Master of the Rolls clearly explained the legal interpretation of the words of the policy as meaning "any bodily injury being the result of any violent, accidental, external and visible cause." In this case the plaintiff wrenched his knee. The wrench was "accidental, violent and visible." The main difficulty was as to the word "external." The judges laid it down that this word was used as an antithesis to the word "internal," used in a proviso in the policy, by which the death or injury of the insured should not be covered if this arose from natural disease or weakness, or from any surgical operation rendered necessary thereby or arising from such disease or weakness. We call the attention of our readers to this case, for it is evident that many obvious accidents may occur in which it might be disputed whether they were due to "external" or "internal" causes, and it would be wise for those who have insured against accident to reconsider the terms of their policies so as to avoid all chances of such litigation should they meet with an injury.

## DANGEROUS EXHIBITIONS.

WE have again and again condemned the flagrant impropriety of those reckless exposures of hardihood in which an individual for the sake of a few pounds or pence, and for no more worthy reason, persists in committing himself to suicidal extravagances of human endurance. Whatever the act or the work in hand, whether it be a fight with wild beasts, a glass-eating exhibition or a fast ruinous to health, one and all obey the same false law. The gambler's thirst for chance events and idle gain is its inspiring passion, the morbid craving for novelty its attraction, and against these every utterance of duty protests in vain. Little wonder then that the life lured by these false lights is liable to be prematurely ended. We admit that all performances of this kind are not inevitably detrimental, and a case recently reported in which an amateur conjurer in Battersea passed a poker down his gullet is of some interest in this connexion. Particularly noteworthy is the fact that, though death followed within a week, no signs of œsophageal injury were found on examination and the fatal issue was attributed to inflammation of the lungs. We may here observe, however, that the possible influence of contusion or abrasion of the œsophagus, which might not be easily recognisable, ought not to be lost sight of in settling the question of causation. Whatever the actual relation in this case between the feat and its apparent consequence, it will be admitted by most intelligent persons that we are daily called upon to witness more than enough of such exhibitions. Little excuse, in our opinion, can be made for them. They serve no useful purpose, but tend rather to brutalise than to elevate; they are frequently very dangerous and should therefore be subject to judicious and effectual control by local authorities.

## SMALL-POX IN ESSEX.

IN consequence of the continuous increase of small-pox in the county of Essex and the risk of cholera being introduced through the ports on the coast the medical officers of health for the various districts in the county held a consultation at Colchester on Saturday last. Only a few districts in the whole of the county have any permanent isolation hospitals, and many have no provision whatever for isolation in case of emergency. It was therefore decided to ask the Local Government Board to bring a little more pressure to bear upon the responsible authorities. The difficulty in obtaining village nurses was also discussed, and Dr. Thresh stated that he had consulted the chairman of the County Council and the secretary of the Technical Instruction Committee, and that it was believed that could some scheme be formulated for training women to act as village nurses and as assistants to properly trained nurses the County Council would defray the expense. Whilst such a scheme is being elaborated advertisements are being issued in order to ascertain whether a sufficient number of women will volunteer to be trained to act as assistant nurses for cases of infectious disease, more especially for small-pox and cholera. Such women after acquiring a certain amount of practical experience would probably be of great service amongst the poor in our rural districts, more especially if they are also trained

to act as rural health missioners. Already female sanitary inspectors are being employed with gratifying success in Manchester, Salford and Brighton, and the example of these towns will probably soon be followed in others. In rural districts, however, the population is too scattered for a woman to be able to occupy the whole of her time profitably as an inspector, but if she were also trained to act as nurse there would be ample employment, and a staff of such women available to assist more highly educated and trained nurses would be invaluable during an epidemic of any of the more dangerous infectious diseases.

## THE MEDICAL SOCIETY OF LONDON.

UNDER the auspices of the President and Council the annual conversazione of this Society was given in the rooms in Chandos-street on Monday last. The Oration (which is published in another column), admirably delivered by Dr. Mitchell Banks, drew together a crowded audience. Afterwards the President held a reception, and the guests were entertained with conversation and light refreshments, whilst the Bijou Orchestra played a selection of music during the evening. The building was tastefully decorated with flowers and shrubs, and all the arrangements, planned with much care by the honorary secretaries, were carried out with such success by Mr. Hall, the resident librarian, that a most enjoyable evening resulted.

## ESTABLISHMENT OF A NEW CHAIR OF PHYSIOLOGY AT QUEEN'S COLLEGE, BELFAST.

WE understand that the President of Queen's College, Belfast, has received Her Majesty's Royal Warrant founding a new chair in Physiology and altering the statutes of the College for the purpose. This has been brought about by an endowment having been provided by the trustees of the Sorella Trust (established under the will of the late Mr. W. Dunville), with the active coöperation of Mr. R. G. Dunville, D.L. The new chair is to be called "The Dunville Professorship of Physiology" and its endowment will be larger than that of any of the existing chairs in the Faculty of Medicine. The trustees have been enabled to found this chair through the generosity of Mr. R. G. Dunville, in purchasing from them a portion of the property which they held in trust and presenting it to the city of Belfast for use as a public park. This is the first chair established in the College by private munificence, and it is a decided gain that in the future the two chairs of Anatomy and Physiology will be distinct and not united as hitherto. The appointment will be made so that the new professor may enter on his duties at the beginning of next session.

## VARIATION OF TYPE IN GENERAL PARALYSIS.

IN the last number of the *Journal of Mental Science* Mr. St. John Bullen institutes some inquiries with reference to the characters of the various forms under which this disease manifests itself, and especially as to the likelihood that various influences are tending to cause modifications of the type. The inquiry is manifestly one of considerable difficulty on account of the uncertainty as to whether older writers recognised general paralysis under the numerous aspects now known to us if they existed; but if, as there seems no reason to doubt, the observations of men who have spent a considerable number of years in lunacy practice are to be relied upon, and further, if statistics indicate differences between recent and older cases of general paralysis, it will be evident that the question of a possible variation in type is at least one to be carefully examined. Mr. St. John Bullen has abstracted the records of 250 cases of general paralysis in the case-books of the Wakefield Asylum, and has further inquired of various observers who have had special opportunities for acquiring knowledge in his particular direction, and as a result of his investigations he concludes that, although in every particular the type of general paralysis cannot be said to have universally changed, yet it is probable that alteration is to be noted very generally, and in some localities prominent changes are apparent in the whole form of the disease. In the following particulars especially we may look for evidences of variation—(1) a less pure and sthenic type of mania with more infrequency of occurrence; (2) greater frequency of primary demented cases and an earlier onset of dementia in cases where emotional manifestions are primary; (3) possible increased ratio of melancholic to maniacal symptoms; (4) modification in the ages of patients attacked, in the duration of the disorder and in its distribution as to sex; (5) variation in the relative frequency in occurrence of convulsive and apoplectiform seizures and in a less sthenic variety of the former; and (5) a possible concurrent change in the meningo-encephalic adhesions.

## THE LONDON POST-GRADUATE COURSE.

THIS auxiliary to the means now afforded to medical men of increasing the opportunities of clinical instruction has now reached the fourth year of its existence, and the success which has so far attended the enterprise augurs well for the future. The summer term commenced on Monday, May 1st, and will conclude on June 26th next. During this term instruction will be given at the following hospitals: The Brompton Hospital; the Hospital for Sick Children; the National Hospital; the Royal London Ophthalmic Hospital; the Skin Hospital, Blackfriars; the Bethlem Hospital; and the London Throat Hospital; also at the Bacteriological Department, King's College, and the Parkes Museum. Lectures and demonstrations on Morbid Anatomy and lectures on Midwifery and Diseases of Women will be given at 101, Great Russell-street; also a course of clinical lectures on Medicine and Surgery will be commenced at the Central London Sick Asylum, Cleveland-street. The teaching will, as far as possible, be of a practical character, and instruction in the use of the microscope, the ophthalmoscope, and other adjuncts to the study of medicine and surgery will not be overlooked. For the fees required for attendance on the several courses we must refer to the prospectus, which may be obtained of Dr. Fletcher Little, 32, Harley-street, W.

## THE PERIODS OF INCUBATION AND CONTAGIOUSNESS OF FEVERS.

So long ago as 1878 the Clinical Society of London, moved thereto by an able paper by the late Dr. Murchison, resolved to investigate the periods of incubation and contagiousness of the acute specific diseases; but the committee then appointed deferred making any report on the information it had gathered, and in 1888 it was reconstituted as follows: Dr. Broadbent (chairman), Sir G. Buchanan, Dr. Cayley, Dr. T. Barlow, Dr. A. Hill, Dr. Isambard Owen, Dr. Thorne Thorne, C.B., Dr. Alder Smith and Mr. R. W. Parker, with Mr. Shirley Murphy and Dr. Dawson Williams as honorary secretaries. The completed report was presented to the Society at its last meeting by Dr. Broadbent. It forms a volume replete with most valuable and useful information, which, as Dr. Broadbent says, should be in the possession of every practitioner in the land. We may defer any detailed commentary upon its contents and merely indicate now that the volume contains a wealth of facts concerning some of the most mooted points in the natural history of disease—facts which will assuredly add largely to the definiteness of our knowledge concerning them. The diseases dealt with are diphtheria, enteric fever, influenza, measles, mumps, rubeola, scarlet fever, small-pox, varicella and whooping cough, and the material analysed comprises not only personal memoranda but also the results of the experience gained by the

medical department of the Local Government Board, whose reports have been thoroughly laid under contribution. The preparation of the report is largely due to Dr. Dawson Williams, who is to be congratulated on the extreme care and excellent manner in which he has arranged this storehouse of facts. The Clinical Society deserves the thanks of the profession at large for having produced at no slight cost a work of such abiding value.

## DEATH OF PROFESSOR SCHNITZLER.

WE regret to hear of the death of Professor Schnitzler of Vienna, one of the foremost of modern laryngologists, who had done much to advance the science of the subject to which he had devoted his life. He was founder of the *Wiener Medicinische Presse* and of a medical school, extra-mural to the University, in which he never became a professor.

## ST. BARTHOLOMEW'S HOSPITAL—DR. ANDREW'S RESIGNATION.

IT is felt by many friends and former pupils of Dr. Andrew that, in recognition of his long and valuable services to the hospital and school of St. Bartholomew's, some testimonial should be presented to him. In furtherance of this a meeting will be held in the great hall of the hospital on Wednesday, the 17th inst., at 4 P.M. All those interested are requested to accept this notice as an invitation to attend.

## THE WATER-SUPPLY OF CHICAGO.

REFERRING to a communication concerning the supply of Hygeia water at the World's Fair which had reached us from America, we alluded in our impression of April 22nd to a report which obtained currency some little time ago to the effect that there would be no supply of drinking water free of cost within the Exhibition grounds. The statement upon which we based the remark was put forward with every appearance of authority, and originally, we believe, appeared in one of the Chicago papers; but, whatever may have been the original intention, we are glad now to have all doubt upon the subject set at rest and in the sense which we should desire, for it appears from the Chicago papers just received that the Exhibition authorities have made arrangements for an abundant supply of filtered lake water to be supplied free at a number of drinking fountains and to be used in the restaurants and the like throughout Jackson Park. This would be for intending visitors a very important piece of news even if it had no significance beyond the bare fact communicated; but if we are correct in supposing that this decision has been taken at the last moment, and possibly in reversal of the earlier intentions of the authorities, it acquires additional importance as showing that the Chicago people are now fully and even keenly alive to the importance of taking steps to prevent an outbreak of epidemic disease. In regard to this matter the water-supply of Jackson Park is a very important item; but it is, as our inquiries have shown, only one item out of many. The governing bodies of the city and of the World's Fair can do much for the protection of themselves and their guests during the next few months, but the citizens can do more, and it is only by assiduous attention to the details of boiling and filtering the drinking water in the hotels and other places of entertainment throughout the city that its sanitation in this respect can be placed and maintained upon a satisfactory footing. In this connexion it is interesting to note the observations which our report has elicited from the Treasurer of the "World's Columbian Exposition," whose letter will be found in another column. In the course of a communication which has just been received from Dr. Ware, Commissioner of Health of the City of Chicago, he remarks: "Since reading the report of the 'Special Sanitary Commission of Inquiry' concerning the water-supply of Chicago and also an editorial upon the subject appearing in the present number, April 8th, of the London LANCET, I take this opportunity of thanking THE LANCET for the manly, straightforward and fair report." It is gratifying to us to note that the authorities and the people of Chicago recognise that the responsible and onerous task which we set ourselves to perform was undertaken in no spirit of captious criticism, but simply with the desire to perform an important public service.

## FEVER PREVALENCE.

THE incidence of scarlet fever on the large towns and cities of the kingdom showed some exacerbation during the week ended April 22nd, amounting altogether to rather more than 1250 cases. Of these London alone contributed more than a third, the other towns principally attacked being Leicester, West Ham, Liverpool, Sheffield, Manchester, Birmingham, Swansea and Merthyr Tydfil. The London mortality from scarlet fever was 24, or 9 above the weekly average. Some 300 cases of diphtheria were notified at the same time, the metropolis owning to considerably more than half. The mortality from this disease in the thirty-three great towns comprised 72 cases, of which 47 were attributed to London. The metropolis furnished only about a fourth of the enteric fever incidence, which was nowhere in marked excess. The London fever hospitals show an increase in the numbers admitted and in those remaining under treatment. This increase relates to both scarlet fever and diphtheria, the mortality from the latter disease exceeding the weekly average by 28. Influenza mortality is diminishing in the metropolis, having been during the week under notice 3 below the average of the previous three weeks; but in Sleaford and other parts of Lincolnshire an extensive, though happily mild, epidemic is said to be raging. Scarlet fever is still prevalent at Shenley Fields, Harborne, and other places in the King's Norton union; whilst some typhus fever is reported from Birkenhead and a widespread epidemic of measles has occurred at Barrhead, near Glasgow.

## MENTAL DISTURBANCES IN CHILDREN.

THE occurrence of mental disturbance in association with acute diseases, either as a complication or a sequel, can scarcely be said to be uncommon in adults; but it is comparatively rare in children, and the three cases which are published in a recent number of the *New York Medical Journal* by Dr. Welt are interesting as illustrating an unusual complication of acute illness in childhood. The first case was one of diphtheria in a boy aged ten. The progress of the disease was favourable, but about a week after the onset, when convalescence was apparently setting in, the patient became restless and sleepless, and his appetite failed. He was alternately noisy, excited and good-humoured, or furious, full of mischief and brutality. He was at times actually violent and had hallucinations both of sight and hearing. The condition persisted for a month and gradually but completely disappeared. It is, perhaps, significant that a sister of the patient is an epileptic. The second case was one of typhoid fever in a girl aged twelve. The fever was of a mild type and the mental disturbance took place about the second week of convalescence. It took the form of great depression, with homicidal tendencies, but passed off entirely after a few weeks. The third case was that of a boy aged five, who, after about a year of indifferent health following measles, had a mild attack of scarlet fever. Suddenly during convalescence he became very restless, did not recognise his mother, and had occasional delusions. The mental disturbance in this case lasted only forty-eight hours. Cases of this kind are very instructive as indicating the care that should be exercised during convalescence from acute illness to prevent any undue strain, physical or mental, which might have the effect of

upsetting the mental balance. Although, should such a misfortune happen, the prognosis is good, it is of importance to remember that some observers have found that children who suffered from mania in childhood have had later to be admitted to an asylum on account of an attack coming on in adult life.

## TREPHINING FOR HEAD INJURY.

DR. VAUGHAN relates in a recent number of the *Boston Medical Journal* two cases of injury in one of which this operation was carried out. A man aged twenty-four was thrown from his horse and for twenty minutes after appeared to be unhurt. Then a slight convulsion occurred, followed by three more in the course of an hour. There was no paralysis, and the patient, although dull and confused, answered questions when roused. For the next two or three days somnolence and stupor increased, apparently as a result of compression, and it was decided to trephine. The site chosen was behind the right ear and a transverse crack was discovered of some extent, but without any splintering or depression. Two "buttons" of bone were taken out, some clots were removed and an antiseptic dressing was applied. With the exception of a maniacal attack with delusions which lasted several days, the patient progressed favourably and left the hospital quite well after about three weeks' treatment. The second case was that of a man aged fifty-six who had a severe fall. He retained consciousness for half an hour but soon became comatose with Cheyne-Stokes respiration. On the fourth day there were right-sided convulsions, followed by slighter left-sided attacks and definite right hemiplegia. He died on the fifth day after the injury. At the necropsy it was found that there was much extravasated blood inside the skull on the right side and behind, and there were two linear fractures, one extending downward and forward across the lateral sinus and the other downward and backward across the occipital bone. There were also underneath the dura mater, on the left side, several ounces of dark clotted blood, which had caused compression and set up irritation. Dr. Vaughan is of opinion that operation in this case could not have benefited the patient on account of the extensive and severe character of the injury.

## FOREIGN UNIVERSITY INTELLIGENCE.

*Greifswald.*—An additional building has just been purchased for the university, in which accommodation will be found for the Hygienic Institute. A large garden has also been acquired, which will afford space for future buildings as they are required.

*Munich.*—A new Pharmacological Institute has just been opened. The director is Professor Tappeiner.

## DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following distinguished members of the medical profession abroad have been announced:—Dr. H. Kundrat, Professor of Pathological Anatomy at Vienna.—Dr. Luis Roa Veldrof, Professor of Children's Diseases in the University of Valladolid.—Dr. A. Kosloff, Professor of Midwifery and Gynæcology in the University of Kazan.—Dr. Robert Hartmann, Senior Prosector in the First Anatomical Institute, Berlin, at the age of sixty. His name is known in connexion with the anthropology of the Nile lands, and he wrote on the gorilla and anthropoidal apes. After his return from Africa, where he was for some years, he engaged in anatomical work and showed himself to be a most painstaking teacher.—Dr. Salzer, Professor of Surgery in the University of Utrecht.

DR. DELVAILLE has been sent by the French Government to Belgium and Holland to report upon the school systems in those countries.

A SIX months' course in Practical Hygiene is being given this summer in the University Chemical Laboratory, Cambridge. The course is specially intended for those preparing for the Diploma in Public Health and consists for the most part of practical instruction in the chemical, physical and microscopical processes employed in the analysis of air, foods and water. The class is under the direction of Mr. T. H. Easterfield, M.A., to whom all communications should be addressed.

THE following appointments have been made at King's College, London:—Mr. B. Bottomley, B.A., Ph.D., F.L.S., Professor of Botany, vice Professor J. W. Groves, resigned; Dr. Duffin (late Professor of Pathological Anatomy), Joint-Professor of Systematic Medicine in conjunction with Professor Lionel Beale, F.R.S.; Dr. Norman Dalton (Assistant Physician at King's College Hospital), Professor of Pathological Anatomy, vice Dr. Duffin; Dr. Greville MacDonald, Assistant Physician to King's College Hospital, with special charge of the Department for Diseases of the Throat.

TO commemorate the death of the eminent chemist Professor A. W. von Hoffmann, which took place on May 5th last year, the members of the Chemical Society will meet on Friday (this day), when addresses will be delivered by Lord Playfair, Sir Frederick Abel and Dr. W. H. Perkins, all of whom were associated with Professor Hoffmann during his stay in England. He was President of the Society in 1861.

AT the first meeting of the newly elected council of the Medical Defence Union, held on Wednesday, April 26th, at 429, Strand, Dr. Campbell Pope, F.R.C.S., in the chair, Mr. Victor Horsley, F.R.S., F.R.C.S., was unanimously elected President, vice Mr. Lawson Tait, resigned.

THE new biological station in Heligoland has just been finished. It is under the direction of Professor Heincke. No fee is intended to be required of those who avail themselves of the station for the purposes of study.

THE Council of the Royal College of Physicians have appointed as Milroy Lecturer for 1894 Dr. John Berry Haycraft, Professor of Physiology in University College, Cardiff.

# Pharmacology and Therapeutics.

### AGATHIN.

WE have received and examined a specimen of agathin—a new synthetical product discovered by Dr. Roos of Frankfort—forwarded to us by Messrs. Burroughs, Wellcome and Co. Chemically it is salicyl α methyl-phenyl-hydrazon and it forms small white scales with a greenish tinge. It is devoid of odour and taste and it is insoluble in water but soluble in ether and alcohol. Numerous experiments on animals having shown that it was perfectly harmless in ordinary doses, it was employed, on theoretical considerations, as an anodyne by Dr. Roos, Dr. Rosenbaum, Dr. L. Löwenthal and others. It has, so far, been tried mainly in neuralgic and rheumatic affections, some cases of sciatica having, it is said, improved remarkably under its use. The dose employed has been from four to eight grains, repeated three times daily. This drug is said to have succeeded when sodium salicylate, antipyrin, phenacetin, quinine, morphine and other remedies have failed. We await the record of further experiments with interest.

### THE TREATMENT OF TETANUS.

Dr. Baginsky[1] reports an interesting case of a child, four

[1] L'Union Médicale, Feb. 25th, 1893.

years of age, who came under his observation with well-marked symptoms of tetanus—viz., trismus, rigidity of the muscles of the neck, back and limbs, inability to swallow &c. Dr. Baginsky first tried treatment with chloral, but no amelioration of the symptoms followed. Dr. Behring, therefore, injected the child several times with the serum of animals which had been rendered artificially immune against tetanus. At the end of five or six days all the tetanic symptoms had disappeared. It was then found, however, that the child had also had diphtheria, and paralysis followed with the usual phenomena—paralysis of the soft palate, affection of the muscles of the orbit and other symptoms. Dr. Behring stated that he had previously seen an analogous case, in which diphtheria had been associated with tetanus. A bacteriological examination demonstrated the characteristic bacillus of tetanus. Dr. Behring had tried the same treatment in another case—one of tetanus neonatorum. The disease, however, ended fatally, but the injections were not given until the infant was almost *in extremis*.

### MIXED COLLYRIA.

According to M. Emile Berger, collyria of great activity, combined with a minimum of toxicity, may be made by combining several substances together; thus, with a mixture of equal quantities of 1 per cent. solutions of sulphate of atropine, sulphate of duboisin and hydrochlorate of cocaine, he has obtained a greater mydriatic effect than with any other substance. Again, the following is at least as active a mydriatic as a 1 per cent. solution of atropine without being equally toxic: sulphate of atropine and sulphate of duboisin, of each 5 gr.; hydrochlorate of cocaine, 30 gr.; distilled water to 5 oz. The following is an excellent myotic, which is well borne: eserine, 15 gr.; hydrochlorate of pilocarpine, 30 gr.; distilled water to 5 oz.; and where the anæsthetic action of cocaine is desired, without mydriasis or interference with the power of accommodation, the following is useful: hydrochlorate of cocaine and hydrochlorate of pilocarpine, of each 30 gr.; distilled water to 5 oz.

### ALLYLSULPHOCARBAMIDE.

Dr. H. von Hebra has employed with success an alcoholic or ethereal solution of allylsulphocarbamide or thiosinamin in lupus. It is given hypodermically, producing a local but not a general reaction. Under the influence of the treatment the cicatricial tissues are said to soften and become flexible, enlarged glands to diminish and corneal opacities to clear up.

### DIAGNOSIS OF HYSTERICAL EPILEPSY BY THE URINE.

Dr. Gilles de la Tourette, writing in a Belgian journal, urges surgeons before operating on epileptic patients to make a careful examination of the urine. He states that by that means a diagnosis can be made between partial hysterical epilepsy and partial epilepsy due to a neoplasm; for, according to researches made by him in conjunction with Dr. Cathelineau in Professor Charcot's clinic, when the epilepsy is due to a tumour there is a marked increase during the fit in the urea and the phosphates, whilst in hysterical epilepsy these bodies are excreted in smaller quantities than usual during the attack.

### BIBORATE OF SODA IN EPILEPSY.

This remedy, first recommended in this country by Dr. Gowers, has been subjected to an extended trial by Dr. Mairet.[2] He finds that toxic effects are produced, such as gastric disturbance, œdema of the extremities, loss of hair, conjunctivitis &c., in nearly all the cases. He recommends small doses to begin with—from eight to fifteen grains daily—gradually increased to sixty or seventy. His maximum dose was from 150 to 180 grains daily, but when the attacks are not affected by 120 grains daily no good is to be obtained from the remedy. After the effective dose has been reached the quantity should be gradually reduced. The mental state he found not to be affected, even with prolonged administration, but he did not consider that the good effects were sufficient to outweigh the disadvantages of the remedy.

### PURE NEUTRAL WOOLFAT.

This new brand of pure neutral woolfat, supplied by the Norddeutsche Wollkämmerei und Kammgarn-Spinnerei, differs chiefly from that of the British Pharmacopœia in its melting point. Owing to the absence of resinous substance this brand melts at about 96° to 97° F., whilst the woolfat of the British Pharmacopœia melts at a varying point between 100° and 112° F. It agrees with the ordinary adeps lanæ in its power of absorbing a large quantity of water and in its cholesterin reaction. On account of its low melting point it is peculiarly suitable for the preparation of ointments, cosmetics, soaps &c., whilst the absence of ordinary fats gives immunity from rancid decomposition.

[2] Progrès Médical, No. 6.

## CHOLERA.

IT is perhaps worthy of remark that the character of the climate in this country seems to have somewhat assimilated itself of late to that of India. The weather of the present spring has been very similar to that of the Punjab, for example—viz., very dry, with cold mornings and evenings and relatively high temperatures at midday. If we are to have later on a wet summer and a wet early autumn the character of a monsoon season will be approached, and it will be very interesting to note whether epidemic cholera develops itself at that time or not.

The outbreak of cholera at Lorient appears to have altogether died out, and we do not hear of any further progress of the disease elsewhere in France.

As regards Russia, it seems that the weather has been exceptionally dry and cold. In the province of Kozloff we hear of men and cattle having perished in a late snowstorm, and, generally speaking, the cold has been exceptionally severe, even for Russia, at this season. No doubt the cold has exercised a repressive effect on the manifestations and progress of epidemic cholera in that country. At St. Petersburg the weather is reported to have been warmer of late, with the appearance of rain, which has also fallen at many places in Germany after a period of prolonged drought.

M. Haffkine is pursuing his anticholeraic inoculations in India. He is in Agra, where he has had every reason to be gratified with the number of persons who have voluntarily come forward and submitted to inoculation with the attenuated cholera virus. We can understand that there might be some difficulty attending the prosecution of his labours in this respect amongst the soldiers and the inmates of native gaols, for the consent of the military and civil officials would probably be required and they might, with even every disposition to aid M. Haffkine, naturally entertain the fear of appearing to be interfering with the liberty of the subject or of offending the prejudices of those under their control.

M. Haffkine has published the lecture he delivered at the Calcutta Medical College in the *Indian Medical Gazette* and has promised to furnish a further communication to that journal on the subject. Our contemporary, meanwhile, has called his attention to the fact that the variations in the biological characters on which many insist are not those which the comma bacillus may undergo in a long course of laboratory cultivations, but those which it is found to possess in fresh specimens taken from the bowels of cholera patients, including the inability to liquefy gelatine amongst other bacteria which persist to an indefinite period of laboratory life. We hope and believe that every facility will be afforded M. Haffkine to put his method of treatment to the trial he desires in India. The necessary conditions for such an experiment are not, however, always easily obtained even in India, and the observations will require to be repeated and to be of a very exact kind, besides being conducted on such a scale and extended over such a period as to render them absolutely conclusive.

## CHOLERA IN FRANCE.

(FROM OUR SPECIAL CORRESPONDENT.)

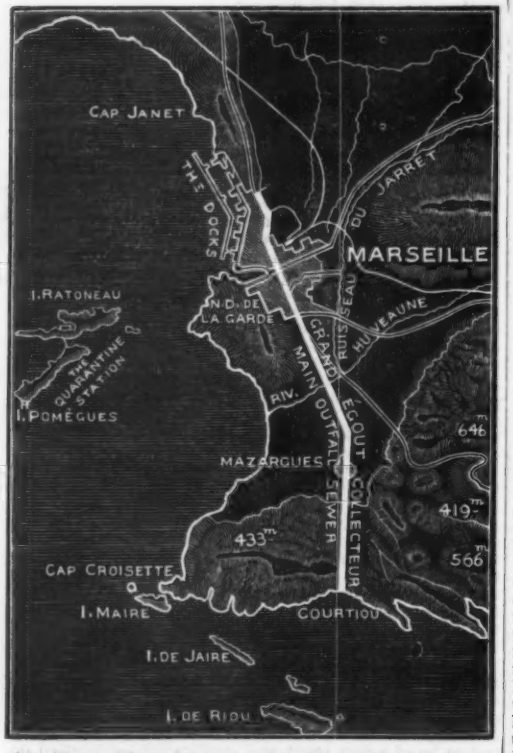
### THE SANITARY REGENERATION OF MARSEILLES.

*Politics and Sanitation.—The Sewers.—Fumigating Sewers.—The Authorised Scheme of Drainage.—The Great Outfall Sewer.—The Cost of Drainage.—Compulsory Powers.—The October and February Cholera Epidemics.*

MORE than enough has been said to show how extremely defective is the sanitary condition of Marseilles, yet much more might be added. I do not propose, however, to exhaust this subject. It would take too much time and space, and it

is more satisfactory to deal with the remedies that are now happily in course of application. If Marseilles has long been under the opprobrium of being one of the unhealthiest towns in France, to her now appertains the honour of being the first town in France which has obtained a special law, not only sanctioning the complete redraining of the town, but arming the authorities with extensive compulsory powers. The scheme adopted is that of M. Cartier, which won the silver medal at the Paris Universal Exhibition of 1889 It can scarcely be considered an original project, but a modification, which in its turn has been modified, of previous projects.

Marseilles may roughly be described as an amphitheatre facing the sea. The fall or natural drainage is in the direction of the sea, excepting in the south-eastern corner, where it gravitates inland towards the small stream the Jarret. This is shown in the accompanying map by the line of heights. At present the open stream the Jarret serves as the main sewer of this south-eastern district; and it also receives the drainage from the opposite side of the stream, and notably from the large cemetery




of St. Pierre. The main sewers, or "collectors" as the French more appropriately call them, which it is proposed to build, are marked by thick black lines on the map on the opposite page. It will be seen that a main sewer will follow the whole course of the Jarret, so that the rivulet will no longer be polluted. At present there are a number of small sewers that have their outfalls in this stream. Dead dogs, cats and other animals and all kinds of refuse float on its foul waters, and its pestilential odour can be noticed at a considerable distance. There has been an exceptional prevalence of typhoid fever in the cavalry barracks constructed on the banks of this stream. Eventually the Jarret falls into the Huveaune river, which at once and in its turn assumes the aspect of a main sewer. The Huveaune falls into the sea at the Prado and near the Borely Château and gardens, where so many persons go to enjoy the fresh air, the gardens and the bathing; but the Huveaune at this point emits an abominably offensive odour and entirely mars the beautiful blue of the Mediterranean. This pollution of the sea takes place close to the spot where the people bathe.

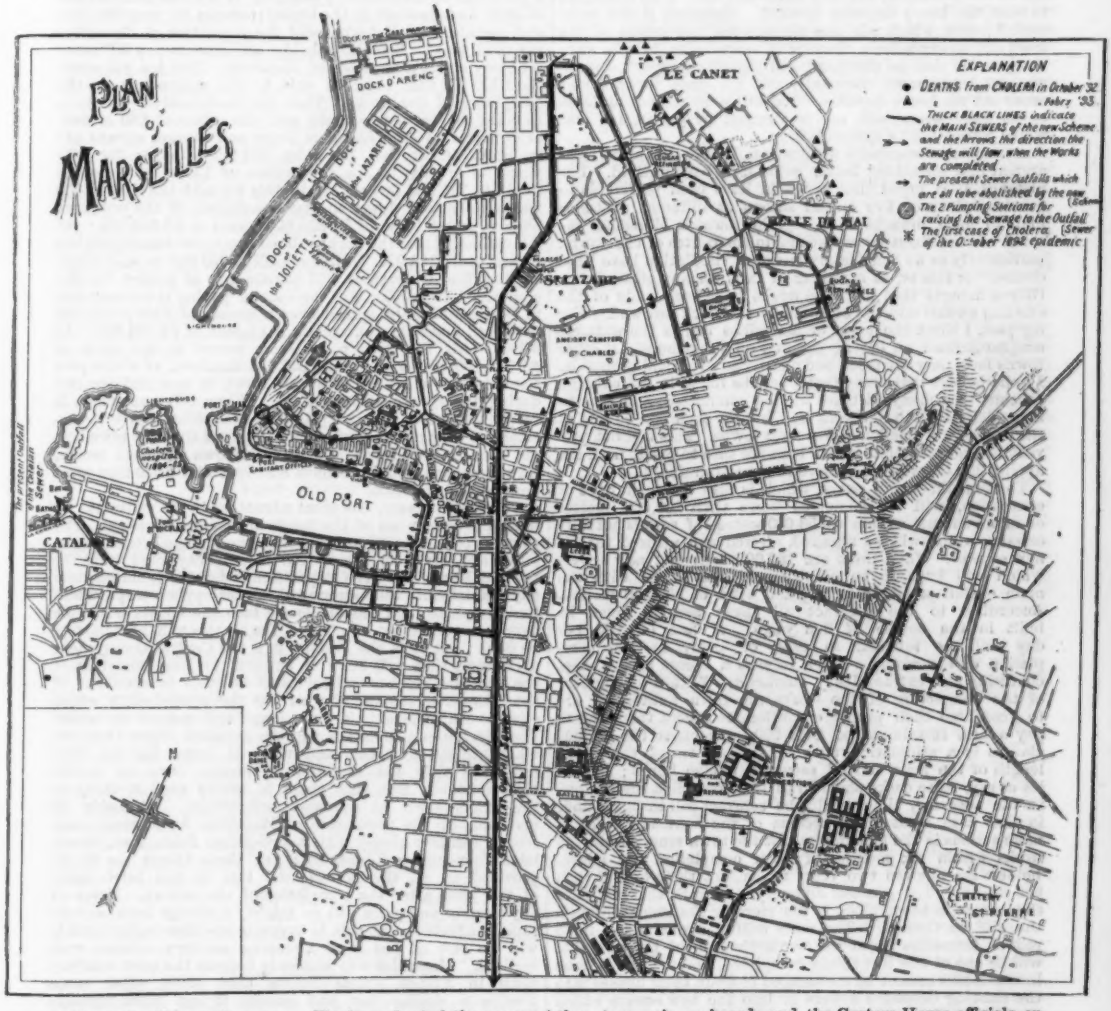
By far the largest and most important part of the town drains towards the sea; but it will be seen that, with the exception of the Catalans district, the entire sea front is occupied by the old port and the new docks. The entrance to the old port is protected on its southern and western sides by a rocky elevation where there are fortifications, batteries and a public park. In the centre of the park, isolated on an altitude, stands the Château of the Pharo, which was built as an imperial residence by Napoleon III. It was used as the cholera hospital during the great epidemics of 1884 and 1885. Further south behind this elevation, is the barren sunburnt height on which stands the celebrated votive chapel of Notre Dame de la Garde. Between these two heights, that of the Pharo and of Notre Dame, is the district of Les Catalans, which is traversed by a recently built large sewer. The outfall is at a point just between two small bays, in both of which there are bathing establishments; and as this is the point nearest to the centre of Marseilles where the open sea can be reached it is the most frequented by bathers. In the summer months as many as 10,000 persons, I am assured, take sea baths at Les Catalans within a stone's throw of the large sewer outfall. The arrow-head on the map indicates the position of the sewer outfall. In the new scheme this outfall will be abolished and the sewer will be so altered that the sewage, as indicated by small arrows, will flow from the sea towards the town till it reaches the new outfall sewer that is to cross the centre of the town. There is another large sewer at Marseilles which passes between the Joliette and Lazaret docks and by a syphon under the dock gates reaches the open sea outside the sea wall; but the sewage gravitation of the more thickly populated centre of Marseilles is towards the old port and not towards this sewer, so that by far the largest portion of the Marseilles sewage drains into the old port and into minor sewers that empty themselves in the docks and not into the one sewer which has its outfall in the sea. The principal outfalls are shown by arrow heads.

It has already been seen that Marseilles, in the main, drains into the gutters, and that from these gutters the sewage descends into the few sewers that exist. In the densely populated district overlooking the northern side of the old port there is but one sewer. The gutter water rushes down the steep narrow streets till it reaches the broad *quai* where there certainly are small sewers which enable the gutter water to pass under the road into the port. As there is no tide the heavy substances brought down by the sewers and gutters would soon choke up the port but for active dredging. M. Guérard, the port engineer, has calculated that during eighteen years an average amount of 79,042 cubic metres of deposits have been dredged up from the port annually. It is obvious that main sewers should be built under the *quai* to prevent the sewage entering the port; but this is the lowest level, so low, indeed, that the sewage that comes down the Cannebière and neighbouring streets accumulates in the sewers for a distance of about a hundred yards. Up to the rue Paradis, opposite the Bourse, the sewers are full to the summit, and for want of a fall they cannot empty themselves into the port. This in part accounts for the appalling odours that infect the Cannebière. Though this celebrated thoroughfare is one of the handsomest and most interesting streets in Europe, this nuisance has never been prevented. So great is the inconvenience caused by the odours at Marseilles that it has now become the custom to frequently burn sulphur inside the sewers. Fumes of sulphur may constantly be seen issuing into the streets from the sewer mouths. The gilding in the shop windows is blackened by the sulphur and the shopkeepers at first complained so forcibly that in some cases the fumigations were stopped. Soon, however, these same shopkeepers begged that the fumigations might be renewed. In the absence of the sulphur vapour they experienced loss of appetite and nausea.

From the first it has been recognised that to drain the lower levels in such a manner as to prevent contamination of the port and docks pumping stations were indispensable. The first plan might be described as a small horseshoe—the *quais* round the old port—within a larger horseshoe; all the sewage that came into the lower and smaller horseshoe would be pumped up into the bigger and higher level horseshoe. The two ends of the latter would be outfalls into the open sea on both sides of Marseilles. The original part of M. Cartier's plan is that, instead of a second semicircular "collecting" sewer, he has devised a straight sewer cutting right through the centre of Marseilles, which is continued for a distance of rather more than seven miles, passes under an uninhabited

cliff 310 metres high and falls into the sea where the water is 60 metres deep, and attains a depth of 200 metres at a distance of 50 metres from the cliff.

The outfall will be in the small bay of Cortiou, right round the promontory of Cap Croisette. From the smaller map our readers will see that this promontory and the very strong currents that prevail in these deep waters render it impossible for any of the sewage to be brought back to Marseilles. The district between the main outfall sewer, the docks, and the old port drains towards the water's edge, but on both sides of the old port there are to be pumping stations, where the sewage will be raised so that it can flow back towards the main outfall sewer. All the sewers shown in the map will be main sewers. The irregular twisting course followed by these main sewers is explained by the irregularity of the ground, as they are placed in the lowest levels so that they may receive by gravitation the drainage from both sides of the course they follow. From this it will be seen that, with the exception of the comparatively small district which actually drains into the Jarret, the whole sewage of Marseilles will be thrown into the one main outfall sewer whilst it is still within the town. This sewer will receive the 79,000 cubic metres of solid deposit now annually dredged out of the old port. Whilst yet in the centre of the town the main outfall sewer will receive the Catalans sewer. The only sewer joining the main outfall sewer outside the town is the Jarret sewer, which will contain all the filth that now falls into the Jarret. This stream will become pure once more. It will no longer pollute the Huveaune, and the people who bathe at the Catalans and on the Prado beach will not be obliged to swim in water contaminated with sewage; but the great question of debate and of dispute is whether this one immense outfall sewer will not be a source of nuisance to the town. At its very commencement it will receive the drainage from the public slaughter-house and numerous factories. This at present is carried off by a sewer which falls into the docks near the Môle de l'Abattoir, where it occasions such fearful odours that the officers of the ships moored at this point prefer to incur the expense of sleeping on shore rather than to remain on board, and the Custom House officials on guard in this part of the docks frequently become ill. All this exceptionally obnoxious sewage now discharging at the Môle l'Abattoir and the sewage from nearly all the other parts of Marseilles will have to flow slowly along the entire length of the town, through the very centre of the town and under some of the very best streets—the Cours Belsunce, past the top of the Cannebière, down the Rue de Rome, under the walls of the Prefecture, and along the tree-shaded Prado. This outfall sewer will measure 11,867 metres in length, the average fall will be 0·52 per 1000 and the minimum fall 0·30 per kilometre. The minimum fall will extend over a distance of 6174 metres; but in the most central part of the town—


PLAN of MARSEILLES
EXPLANATION
DEATHS from CHOLERA in October '92
" " " 1893
THICK BLACK LINES indicate the MAIN SEWERS of the new Scheme and the Arrows the direction the Sewage will flow when the Works are completed.
The present Sewer Outfalls which are all to be abolished by the new Scheme
The 2 Pumping Stations for raising the Sewage to the Outfall
The first case of Cholera (Sewer of the October 1892 epidemic
LE CANET
DOCK D'ARENC
DOCK DE LA JOLIETTE
LA JOLIETTE
ST LAZARE
OLD PORT
CATALANS
PORT DE PECHE
CEMETERY St. PIERRE
N

that is, under the Cours Belsunce—the fall for a distance of 390 metres will equal 0·002 metre per metre, and there the water, it is calculated, will travel at the rate of 2 metres per second, which velocity is considered sufficient for self-cleansing purposes. The velocity in other parts of the main outfall sewer will be, it is believed, 1 metre per second.

There is no disguising the fact that a fall of 30 centimetres per kilometre is insufficient. It is no answer to say that there are main sewers in London where the fall is only equal to 0·37 metre per 1000 metres, and that in Brussels the fall of the main sewer varies from 0·30 to 0·50 metre per kilometre. None of these sewers are self-cleansing, and it is frankly admitted that the main outfall sewer of Marseilles will not be self-cleansing, but that boats will have to be employed to push the heavy deposits forward. Therefore if the main outfall sewer, which will pass through the very centre of the town and onwards for a distance of seven miles, is to be anything better than an elongated and gigantic cesspool, sewage removal boats must constantly stir up, push forward and scour out the heavy deposits. Marseilles, in respect at least to its main sewer, will not be drained by gravitation and water power, but by human labour.

A number of engineers with whom I have conversed have argued that something better could have been devised. For instance, it is urged that it would have been preferable to construct four or five outfall sewers at different altitudes and to have brought them together outside Marseilles instead of concentrating everything in the centre of the town; particularly as no satisfactory means of ventilation have been devised for this or, as a matter of fact, for any other sewer. Others thought that more use might have been made of the existing outfall into the sea outside the dock sea wall. For my part, I think the town of Marseilles merits the warmest congratulations on having decided on a scheme whilst other towns have only discussed and quarrelled over rival proposals. I quite believe that many faults will be found in the existing scheme, that many mistakes will be committed, and that in many details it will not work well, but the same can be said of the drainage of London and of most towns. This will not prevent the incalculable benefits that are sure to result from the application of even a defective scheme of drainage.

To the main outfall sewer, which is also the main bone of contention, will be connected more than 200,000 metres of minor sewers. There are 58,000 metres of sewers actually existing which will be repaired, altered and utilised for the new scheme. Then there are 180,000 metres of new sewers which will have to be constructed, and these, with the main outfall sewer, make a grand total of 250,000 metres. According to the contract all these sewers must be built in the course of five years. A fine of £20 per day will be inflicted in case of delay in the completion of the works. Then follows a clause of the most confusing and extraordinary character. Within six months of the completion of the works the town authorities are to guarantee their proper execution, to accept them and to pay a first instalment of £400,000. Amongst the various clauses is a stipulation that water shall travel the whole length of the main outfall sewer in twelve hours; but if, let us say, some corks should fail to accomplish the journey in the necessary time would the contract fall through, and, in that case, what would become of the sewers? What is more serious is the fact that whilst the town must accept the works within six months of their completion the householders are allowed two years to connect their houses with the sewers. The greatest difficulty, the work that will take the longest to accomplish, is the piercing the tunnel through the cliff at Cortiou. The main outfall sewer which is to relieve Marseilles from the contamination of the port &c. will be one of the last things completed, and till this is done householders cannot be encouraged to drain their houses into the existing defective sewers or into the new sewers which are now in the course of construction, but which have not yet any outfall. Speaking, therefore, in a general sense, the question of domestic drainage must be deferred till the main outfall sewer is completed. Thus, when the town authorities have to examine the sewers and to decide whether they are satisfied and will accept them but few of the houses will be draining into them. However, there is every reason to anticipate that the sewers will be built according to the agreement and in a satisfactory manner. It is the connecting the houses with the sewers that will constitute the greatest difficulty. The inhabitants little know how heavy and sharp is the sword of Damocles now suspended over their heads; and the most wonderful part of the whole scheme is the sanction which the French Legislature has given to this menace. The law authorising the drainage scheme of Marseilles effects in that town a thorough revolution. Within two years of the completion of the sewers every house is to be connected with the sewers, and this in a manner specially described. In a word, the English system of domestic drainage is to be applied. Every house must have a watercloset, with a two-gallon flush and separate flush-tank. Every closet, every slop and bath water-pipe must be trapped and every soil-pipe ventilated. The town authorities will have the right of entry into all houses and the power to compel the landlord to execute at his own cost the works which the authorities will order, supervise, and control. This is the only way in which a town can be satisfactorily drained. It is worse than useless to leave such matters to the tender mercies of jerry-builders and speculators. But what will the population of Marseilles say to all this? Each householder will have to pay 50 francs for every metre of frontage of his house. This tax will cover the £400,000 that must be paid to the contractors on the completion of the works. Then the householders will have to build one or more closets, and this will cost £40 or £60, or even more if the house is large and several closets are required. After that the town will have to pay for fifty years an annuity to the contractors of 1,224,300 francs, or in all 61,215,000 francs. If to this we add the 10,000,000 francs to be paid down on the completion of the works we have a grand total of 71,215,000 francs or £2,848,600; yet it is estimated that the works will not cost more than 33,500,000 francs, or £1,340,000. Of this sum £400,000 will be paid down, so that the contractors will remain out of pocket for the amount of £940,000. For the sake of paying this latter sum in easy instalments, spread over a period of fifty years, the town will make the contractors a present of £1,504,600. In other words, the town will receive sewers to the value of £1,340,000 and will pay £2,844,600 for them, of which sum a small third will have to be paid down at once and the rest during the course of fifty years. When this agreement is better understood by the people of Marseilles they will consider it a very hard bargain and will regret that the town was not able or willing to undertake its own drainage works, for the sewers would not have cost half the price that must now be paid for them.

There is, however, one great advantage in the contract. It takes the matter out of the hands of the municipality. The contract is signed; it has been sanctioned by the French Legislature and has become law. No municipality could drain the town of Marseilles. The population is far too ignorant, and any municipality that attempted to put syphon-traps, flush-tanks, and, in fact, proper closets into the houses would be very soon turned out of office. Yet all this will now have to be done; but it is the Prefect, it is the Central Government of France, that will have to enforce the due execution of the contract signed. The Prefect is quite independent of the Marseilles elector, and as for the municipality which signed the contract it has long ago ceased to exist. The Marseilles population will be appalled when they see what sanitation means and what it costs, for we must remember that the majority of houses have no water-closets at all, and that there is hardly such a thing in the whole town as a proper watercloset. Probably 90 per cent. of the population of Marseilles have never even seen a sanitary closet with a two-gallon flush, trap, ventilated four-inch soil-pipe &c.; yet these things are to be provided in all the houses, and this in the brief space of two years after the completion of the sewers. Never in any town or any place will so mighty a change have been so rapidly effected. If this is properly and thoroughly done it will be one of the most sweeping sanitary reforms ever realised. Marseilles will suddenly become the most sanitary town in France unless before then some other town obtains a similar law and carries it out more rapidly. The death-rate, to judge from what has occurred in other towns, will be reduced by from 20 to 30 per cent. and Marseilles will no longer be the cholera focus of the south of France.

On the map on page 1085, which shows the course of the main sewers that are to be built, I have also marked the places where the persons who died from two small but recent cholera epidemics were domiciled. The round dots indicate the deaths in October, 1892. There were 82 deaths in all, and it will be seen how the epidemic was centred in the old part of the town, the northern side of the old port, which was the very quarter that suffered most in the epidemics of 1884 and 1885, and where there is always the highest death-rate and

where the waters of the Huveaune are drunk. The triangular marks indicate the deaths from cholera in February, 1893. There were, as already recorded, 102 deaths from cholera in February last, though only 87 were officially recognised as cholera. This latter epidemic affected a totally different part of the town—viz., the Belle-de-Mai and Canet districts on the outskirts. Here there is more space and the houses are new and smaller, but the population is poor. From the extreme northern outskirt cholera spread to the extreme southern outskirt, the neighbourhood of the Prado station. From these two points cases are scattered in all directions, and the *locale* of these scattered cases shows that the two epidemics touch each other. Thus for the two epidemics we find three centres—the northern and southern outskirts in February and the old port, or central district, in October; but the offshoots of these centres spread over the entire town and meet and cross each other, thus covering Marseilles with a complete web of cholera contamination. How dangerous this may be can best be judged from the fact that in several cases there has been no disinfection. For commercial and political purposes the existence of cholera was strenuously denied. Disinfection cannot be enforced unless the existence of an epidemic is officially declared. At Marseilles, on the contrary, it was officially declared that there was no epidemic. Several persons profited by this to refuse to have their premises disinfected, so that there are still cholera dens at Marseilles which have not been touched and which have not in any way been purified. Under such circumstances it is quite probable that cholera will break out again and with much greater force. This is a danger which will continue for at least another six or seven years, till such time as the drainage works, public and private, are completed; then we shall have good cause to hope that cholera will be definitely banished from Marseilles.

## THE ANNUAL REPORT OF THE SANITARY COMMISSIONER WITH THE GOVERNMENT OF INDIA FOR 1891.

[FIRST NOTICE.]

THESE reports, as we have previously had occasion to remark, are ably drawn up. They contain a large amount of information upon subjects appertaining to the sickness and mortality and the origin and progress of epidemic diseases amongst European and native troops and the gaol population of India; and the various tables and returns are admirably designed to illustrate a variety of interesting points connected with the health of the large military and native communities with which they deal and about which it concerns our legislators to be well informed.

Great progress has been made of late years in all that concerns the health, comfort and general well-being of the troops serving in India. The British soldier is better fed, lodged and clothed than he has ever been before; hill stations and sanatoria have been opened, and the periodical immigration from the plains to the hills of India during the hot weather is far greater now than it was formerly; regimental institutes have sprung up in various directions; greater temperance prevails; the system of railways has opened up the country and increased the facilities for obtaining a change of climate; and the troop service system has also increased the facilities and multiplied the opportunities for the transfer of invalids from India to this country. But—and we fear there is almost always a "but" to be added in qualification of our recognition of the praiseworthy efforts that have been made—there is one thing which the Indian Government has hitherto quite neglected to do, and that is to provide properly equipped laboratories and trained experts for the scientific investigation of disease according to the modern methods of research. It is a subject to which we have frequently alluded, and we are glad therefore to find the Sanitary Commissioner with the Government of India dwelling very forcibly upon it. He points out that what is wanted in India is not more private work by medical officers, however enthusiastic, for no amount of enthusiasm will compensate for the lack of training and apparatus, but the clinical work of medical officers requires to be supplemented by that of trained experts. To give the Government its due, we believe that the initiative step has already been taken in this direction, and that before long we shall hear of the establishment of some bacteriological laboratories and institutes in India; and in connexion with these we should like to see the organisation of some kind of public health department carried out, with local head centres, as it were, distributed in various districts and at the larger military stations, and composed of officers of the public works and medical departments whose special duty it should be to inspect and report upon all local outbreaks of disease whilst the facts were still recent and capable of being ascertained and verified. Statistical returns, the tabulation of disease and a record of clinical observations are not an end—they are but steps to an end. We want to differentiate one disease from another and to trace the causes and conditions under which they severally prevail in order to see how far these are capable of being removed or mitigated. The report under review is prefaced by a section from the meteorological reporter to the Government of India summarising the principal meteorological phenomena of each month of the year 1891.

The sickness of the European army in India was less in 1891 than in the previous year, though the mortality was somewhat greater. The former fact was principally due to the great diminution of influenza and also of venereal disease, and the latter was caused by the increased prevalence of cholera. Out of a strength of 67,000 in 1891 the admissions to hospital were 1379 per 1000, the constantly sick 79, the deaths 15·89 and the invaliding 27 per 1000 respectively, representing a total loss of 43 per 1000 of strength. Enteric fever caused 36 per cent. of the total deaths and cholera 16 per cent. On a comparison of the more important causes of death in the three Presidencies—Bengal, Madras and Bombay—we find that, according to the tabular statement given, enteric fever heads the list in all three Presidencies, and is followed by cholera and then by abscess of the liver. The ratios of enteric fever and cholera in 1891 were above the decennial rates, and the ratio of hepatitis below that rate, in all three Presidencies. Bengal had the highest death-rate from enteric fever, Madras from hepatitis and pneumonia, and Bombay from dysentery.

The distribution of the cholera of 1891 by stations and seasons is set forth in a table. The amount of cholera was much greater than in the preceding year. The greatest number of cases occurred in May and September, and there was more cholera in the second half of the year than in the first. As regards the Bengal army the station most severely affected was Lucknow, where there were 51 cases with 29 deaths in May. In the Bombay army out of 53 cases 85 per cent. occurred in August and September.

Turning to the subject of enteric fever in India we find some interesting remarks regarding the importance of bacteriology in the diagnosis of that fever, and more especially in connexion with those relatively rare cases in which the anatomical changes may be trifling and may consist only of a scarcely noticeable swelling of Peyer's patches and of some mesenteric glands. A certain number of French and English bacteriologists have insisted upon the ultimate identity of the enteric bacillus with the bacillus coli communis, the two being regarded as simply varieties; but the leading bacteriologists of Europe regard them as specifically distinct and believe that the active cause of enteric fever always enters the body from without. There was an increase of both morbidity and mortality from enteric fever in 1891, the admissions being 1366 and the deaths 384. During the last ten years, and especially during recent years, there have been an increase in the total fever mortality and an increase of mortality from enteric fever, accompanied by a decrease in mortality from other fevers, which are partly attributed to increased susceptibility on the part of the army owing to youth and recent arrival and partly to the greater frequency with which the diagnosis of enteric fever is now made. The tables showing the greater liability of the young soldier to die from enteric fever and the decreasing liability with advancing age, as well as those illustrative of the incidence of enteric fever in comparison with the length of service in India, in showing the increased susceptibility of the recently arrived soldier and his rapidly diminishing liability to death from enteric fever with increased length of service, are very striking. For example, in 1891 the death-rate of soldiers of twenty-four years of age and under was 9·11 per 1000, representing a percentage of liability of 68·65; whereas the death-rate of soldiers of from thirty to thirty-four years of age from this fever was 0·71 per 1000 and the percentage of liability 5·35. And

as regards length of service in India, during the first and second years of residence in that climate the death-rate of the European army in 1891 was 11·60 per 1000, representing a percentage of liability of 64·19, whereas from the third to the fifth year it was 3·64 per 1000, with a percentage of liability of 10·14, and from the sixth to the tenth year of residence in India it was 2·23 per 1000, with a percentage of liability of 2·34 only; but these points—which are indubitably of great importance from a legislative, administrative and medical aspect—may now be regarded as established. An analysis of the facts from year to year brings out the same or very similar figures, and the regularity of their recurrence rather tends to weaken the force of the impression they should make.

In connexion with this subject, we may refer to the following facts regarding the prevalence of enteric fever in the native troops and gaol population.

*Admission and Death-rates per 1000 from Enteric Fever in the European Troops, Native Troops and Gaols of India compared.*

| | 1877-1886. | | 1891. | |
|---|---|---|---|---|
| | Admissions. | Deaths. | Admissions. | Deaths. |
| European troops .. | 8·9 | 3·15 | 20·4 | 5·76 |
| Native troops .. .. | 0·2 | 0·10 | 0·3 | 0·13 |
| Gaol population .. | 0·2 | 0·10 | 0·2 | 0·8 |

Necropsies are rarely obtained in the case of native soldiers; but amongst prisoners it is stated that nearly every fatal case of disease is subjected to post-mortem examination. Under these circumstances the fact that the ratios of prisoners and sepoys for the ten-year period are practically identical shows that the native troops really suffer less than the European. Moreover, on comparing the total fever mortality amongst native troops and that amongst European troops they are found to be very different in amount. It may therefore be concluded that native soldiers and prisoners are really less liable to contract enteric fever than Europeans. As regards enteric fever and season, we may say that enteric fever had a first maximum in June and a second in September, subject apparently to certain exceptions associated, and probably connected, with fluctuations in temperature and monsoon influences.

The admission-rate for venereal diseases fell 103 per 1000 of strength below that of 1890. All three presidencies participated in the fall, but Bengal most. The probable causes explanatory of this are set forth in the report, but they are not, to our minds, altogether adequate to account for the fall in the ratios for these diseases in 1891. In our next issue we hope to conclude our notice of this report, which, as we have already inferred, is both able and interesting.

## LORD CROMER'S REPORT ON EGYPT, 1892.

THE British Consul-General's last annual report on the administration of Egypt and the progress of reforms (presented to Parliament in March, 1893) contains much that is of interest from a medical and sanitary point of view. All reforms and improvements depend on the state of the public treasury; it is therefore satisfactory to note that at the end of the year there was a surplus of revenue over expenditure amounting to £769,000—a sum largely in excess of the estimate. This encouraging result was obtained "in spite of the large reductions of taxation made early in the year."

### CONTINUED FINANCIAL PROSPERITY.

During the last three years the average annual surplus seems to have been £814,000, nothwithstanding the fact that during the same period direct taxation had been lowered to the extent of £592,000.[1] The financial position of Egypt would therefore appear to be so exceedingly satisfactory that a considerable sum might surely now be devoted to the sanitation of the country.

### DRAINAGE OF CAIRO.

Provision was made in the Estimates for an expenditure of £50,000 on the drainage of Cairo. The works, however, "have not been commenced, as the preliminary surveys are not yet finished." There seems to be a great deal of unnecessary delay in carrying out this important measure. Towards the end of 1889 Mr. Baldwin Latham was invited to go to Cairo to report on the best way of improving the sanitation of the city, and shortly afterwards he submitted a plan for thoroughly draining it from one end to the other by means of gravitation in connexion with sectional pumping stations. The sewage was to be conveyed through earthenware pipes, with special joints admitting of a certain amount of motion in every direction; and the entire cost of the undertaking, including farm and sinking fund, was to be £565,700. Taking into consideration the topographical situation and surroundings of Cairo, Mr. Latham's project seemed to be in every respect an ideal one, but for some unexplained reason the Egyptian Government declined to carry it out. After some delay an International Commission of Engineers was appointed to decide the question. Thirty plans were submitted for the approval of these gentlemen, but one and all were found fault with. Mr. Latham's proposal, in the opinion of the international experts, "was an elegant solution of the problem at issue, but unfortunately it had the fault of being very costly." Some of the other projects were also not devoid of merit, but after lengthened deliberation the Commissioners were unable to recommend any of them.

### THE INTERNATIONAL PROJECT.

Under these circumstances it remained for the Commissioners to elaborate a proposal of their own, and accordingly they proceeded to do so. The cost of this international plan, of which very few details are furnished, is roughly estimated at £500,000; but in the opinion of a very competent critic £800,000 would not cover the expenditure. For this large sum only about one twelfth of the houses would be drained, the remainder apparently being left *in statu quo*. The members of the Commission were unanimous in laying down the law that no house that is not supplied by the Water Company should be permitted to have communication with the sewers.

### A VALUABLE MONOPOLY.

The Water Company of Cairo enjoys a monopoly with many years still unexpired, and its rates are about ten times heavier than is the case anywhere in Europe. To carry out the recommendation of the Commission that the establishment of a water service should be rendered obligatory in every quarter where there was to be a sewer would simply result in those houses being left undrained which most require it.

### THE PROPOSED SEWERS.

The proposed sewers are to be round or oval, varying in diameter from nine inches to four feet or more. There is to be but one pumping station, the site selected being exactly to windward of the town, near Abbasiyeh. To obtain a sufficient fall throughout the immense area to be drained will be simply impossible unless the distal ends of the several mains are sunk to an almost prohibitive depth. In the water-logged alluvium on which Cairo stands the construction of water-tight rigid drains is a problem that still awaits solution. The experiment has been made and it ended in conspicuous failure. Sewers carefully constructed on the plan advocated by the Commission were laid down in recent years, but were destroyed in 1887 at great expense, having become "centres of infection." These are plain facts, and to some people they may appear to be somewhat startling; but all can be substantiated. 220 miles of sewers with a sufficient fall, constructed of brickwork or masonry and supported by adequate foundations, cannot be established in Cairo for £500,000 or anything approaching that sum.

### STORAGE RESERVOIRS.

The extremely important subject of Nile Reservoirs is only briefly noticed by Lord Cromer. "In 1892 a special establishment was appointed to take up the study of storage reservoirs in Upper Egypt, with Mr. Willcocks as its Director-General." "It is only when a big project like the above is taken in hand and worked out in detail that it is found what an enormous amount of work is entailed." It seems that "final designs" for reservoirs at "Kalabsha, Assouan, and Silsila have been calculated, drawn, and estimated." These measures refer to dams in the bed of the river itself whereby the surplus flood-water could be prevented from running to waste. They are all equally open to the objection that the impounded water would be liable to contamination. A minor argument against the establishment of a weir at Assouan lies

[1] There is also a "cash balance amounting in all to £3,391,000, which, in one form or another belongs to the Egyptian Government."

in the resulting submersion thereby of the famous ruins at Philæ; but that, of course, is not a matter with which we are immediately concerned. Trial surveys and borings in connexion with the Wady Raiyan project have been completed, but Lord Cromer evidently does not regard that scheme with much favour, although he says: "What is wanted is that Egypt shall have the best possible reservoir, whether it be in the Wady Raiyan or in the Nile Valley itself, formed by means of artificial dams." This is precisely the desideratum. From a hygienic point of view the scheme for preserving the pure supply from the Abyssinian mountains in the Raiyan desert, far from all possible sources of contamination, is the most perfect conceivable, and sanitarians should use every effort in their power to secure its adoption.

### THE SALT DEPARTMENT.

A far-reaching reform was instituted in this Government monopoly, 40 per cent. having been taken off the price of salt at the commencement of the year. The receipts were consequently much under the estimate, but 39,000 tons were sold against 30,000 in the previous year. Salt being a necessary of life and health, the price to the impoverished fellaheen might with benefit be still further reduced.

### PRISON DEPARTMENT.

"In spite of the difficulties this department has had to contend with, in housing, feeding, clothing, providing work and maintaining the health and discipline of an average daily number of more than 6000 prisoners on a limited budget of £27,250 and a restricted staff of 342 employés, the work of the year has been very promising for the future." "During the year no less than 45,178 prisoners, including 4150 women, have been received in the State prisons ..... but this number does not include the hard labour convicts at Suakin and Lakar, or the contravention cases which are confined in specially-rented quarters or in the police district gaols." "I regret to say that the overcrowding still continues, owing to the indisputable fact that the existing gaols are totally incapable of containing the average number of prisoners in confinement." These extracts show conclusively the nature of the task confided to Crookshank Pasha. It is difficult to understand why—with the finances of the country in such a flourishing condition—that able and hard-working official should still be expected to continue to make bricks with such an infinitesimal amount of straw. Overcrowding in gaols is notoriously one of the gravest sources of danger to the community at large, and for the sake of sanitary insurance alone it is highly desirable that the Prisons Budget should be at least doubled.

### SANITARY DEPARTMENT.

"16,848 patients were admitted into Government hospitals in 1892, as against 15,371 in 1891, an increase of 1477; besides which 2947 cases of infectious diseases were treated in tent hospitals. Either the credit for hospitals must be substantially increased or the number of admissions limited to the existing provisions (which means denying the benefits of hospital treatment to a large number of applicants), for it may be confidently expected that this number will go on steadily increasing as the prejudice against hospitals gradually disappears. It is naturally a matter for regret that large centres of population—towns of over 20,000 inhabitants—should have no hospital, and that in towns of from 7000 to 12,000 inhabitants there is not, in many cases, even a dispensary; but whether the Government is bound to undertake general medical relief which receives no assistance from private charity or local funds is doubtful." From an English point of view this reasoning may be correct, but it must ever be remembered that Egypt is a country *sui generis*. The people have never been taught the principle of self-help, and the taxes they have to pay are as much as, or more than, they can bear. Under these circumstances it is manifestly the duty of Government to provide for their necessities pending the completion of their education and until the burdens they are made to carry shall be sufficiently lightened to enable them to take charge of their own affairs.

### THE SANITARY BUDGET.

Some slight improvement is to be seen in this all-important particular. £22,000 have been granted for repairs to Kasr-el-Aini Hospital and £14,000 for other indispensable works, including a public disinfecting station in the vicinity of Cairo. £3000 have also been added towards improving the pay of civil medical officers, "but the sum is insufficient to carry out in its entirety a complete reorganisation of the service. For the general sanitation of the country no provision exists. Local wants should undoubtedly be met by local rates, but it is to be feared that a considerable time must elapse before the inhabitants of the large towns will recognise the importance of drainage schemes and pure water-supply to the extent of desiring, much less imposing on themselves, local taxation for these purposes. For the rural districts there seems little hope, unless the Government undertakes the expenditure." It is encouraging to find these things even talked about in high places. As already pointed out, it is unquestionably the duty of the authorities, now that they have the means, to make a beginning. As suggested in a previous paper,[2] let a sub-branch of the sanitary department be organised, with a budget of £200,000, for the purpose of inaugurating hygiene in the villages. The money could not be spent in a better way, nor in one that would eventually prove more remunerative.

### NO SANITARY LEGISLATION.

Lord Cromer goes on to point out that "one of the great wants of the country is sanitary legislation. No Public Health Act exists. The difficulty will be to frame a law applicable alike to Egyptians and foreigners and to obtain its acceptance by the Powers." This is, without doubt, where the sanitary shoe pinches in Egypt, and until the country be subjected to one master only it is impossible to provide a remedy. To devise effective sanitary legislation whilst the capitulations remain in force surpasses the wit of man. According to the report a beginning was made last year, but the "subjects selected were those not likely to affect foreigners"; such, for instance, as mosque drainage and brick-making within a kilometre of habitations in order to avoid the formation of fresh *birkets*. "Two important questions" are said to remain as yet unsolved—"the filling in of existing *birkets* and the removing of cemeteries which are a danger to public health." If the sub-branch above mentioned were established these necessary reforms would come within its province.

## POWERS OF INSPECTION BY SANITARY AUTHORITIES (THE FOLKESTONE CASE).

ON Saturday, April 15th, the Folkestone borough magistrates gave their decision in a case which will doubtless be attended with the most important consequences to the public, for it has demonstrated to them—apparently to an unpalatable degree—the great powers vested in local authorities for the carrying out of necessary sanitary reforms. Numerous letters have appeared in the lay press expressing surprise and dissatisfaction at the judgment which has been delivered, feelings which are very natural when it is remembered that many of the houses which have been pronounced insanitary would compare in size and excellence with those of Grosvenor-square. To adduce the fact that a house is a mansion is no argument that its sanitary condition is perfect. On the contrary, the very complexity of its drainage system renders it all the more likely to present shortcomings which might not have occurred in a house drained on a more simple plan. In discussing the question of sanitation in relation to the law and practice of house-letting in August, 1892, we had occasion to make use of the following words: "We see, then, that in the matter of sanitation the law makes the local authority practically supreme if it cares to exercise its rights, for it is not only permitted entry at any reasonable time during the day if dissatisfied with the sanitary condition of any house, but it may frame by-laws and enforce them with respect to sanitary appliances," although the plan we suggested for bringing about the required sanitary reform was by a system of registration rather than by entry and enforcement of the law. To arrive at a correct understanding, however, of the position taken up by the Folkestone local authority, let us first briefly review the facts of the case, then the provisions of the Public Health Act, 1875, which bear upon the case, and finally see how the one was justified by the other.

The sanitary inspector being engaged in a house-to-house

[2] THE LANCET, April 22nd.

inspection, the necessity for which had been pointed out in a circular letter recently issued by the Local Government Board in view of the approach of cholera, applied at a certain house for admission for the purposes of inspection and was refused. From an outside observation he had arrived at the opinion that there were sanitary nuisances; the soil pipe did not "appear" to be properly ventilated, and he saw through the glass door a sink in the scullery which did not "appear" to discharge outside; in the yard a bell trap that "seemed" to be dry; and from the state of the adjacent houses in other particulars he had reason to believe that the house was not in the state of sanitary excellence in which it should have been. It transpired in the course of cross-examination that during the three years and two months that he had held office, the sanitary inspector had been obliged to condemn no less than 2000 watercloseta, out of a total of 5000 houses, the inspection of which had not yet been completed. The application in question was made to the magistrates for an order to enter the premises.

The provisions of the Public Health Act, 1875, which bear upon the case are the following: Section 35 enacts that every house newly built or rebuilt shall be provided with a sufficient watercloset, earth closet or privy. Section 36 lays down that if a house within the district of the local authority appears to such authority by the report of their surveyor or inspector of nuisances to be without a sufficient watercloset, earth closet or privy they shall serve a written notice on the owner or occupier to provide the same within a reasonable time. Section 40 enacts that every local authority shall provide that all drains, watercloseta, earth closets, privies, ashpits and cesspools within their district *be constructed and kept so as not to be a nuisance or injurious to health*. Section 92 enacts that every local authority shall cause an inspection of their district to be made from time to time to ascertain what nuisances exist calling for abatement. Section 102 lays down that the local authority or any of their officers shall be admitted into any premises for the purpose of examining as to the existence of any nuisance thereon ..... at any time between the hours of 9 in the forenoon and 6 in the afternoon.

Most of the correspondents who have written to the daily papers complaining of the hardship involved by the action of the local authority appear to us to have grounded their objections mainly upon the supposition that the sanitary authority had no power to interfere save in the event of a nuisance existing; but the fallacy of this notion will be at once evident on reading the provisions of the Public Health Act which we have quoted above. Indeed, even the learned counsel for the defendant seems to have grounded his defence upon the same argument, for he is reported as saying that "the bench would see from Section 102 of the Act it is provided that any local sanitary authority or any of their officers shall be admitted to the premises for the purposes of examination as to any nuisance; but it must be interpreted reasonably, and the only reasonable interpretation was that there must be a *primâ-facie* case shown, the whole principle involved being whether the sanitary inspector has the power to knock at the door and go in or whether the true interpretation is that a *primâ-facie* case must be made out." The truth is that the sanitary authority has a twofold duty devolving on it—viz., not only to correct nuisances when they do exist, but to see by periodical inspection that nuisances do not occur either in houses in course of erection or in those already built. The points mentioned by the sanitary inspector certainly constitute legitimate reasons for interference, and the local authority appear to have been further justified in their action by the circular letter of the Local Government Board, although we must presume from the enormous number of closets condemned that the routine inspection of houses had commenced prior to the reception of this letter. It is a pity, however, that more evidence on certain points was not elicited at the trial. For instance, were any of the closets condemned found in houses erected since the passing of the Public Health Act, 1875; and if so, how came this to pass? Of what pattern were the closets which were removed and by what sort were they replaced? A large number of the recommendations of the sanitary inspector for improvement appear to have been in the direction of watercloseta; and we read in the letter of a correspondent, resident over twenty years in Folkestone, "that the water company had decided against valve watercloseta and a three-gallon flushing cistern; that the sanitary authority have condemned what is considered by experts to be the best lead-trap in existence." New patterns of closets are constantly being introduced, and fashion changes in these things as in everything else, so that unless those removed actually presented grave defects which would have rendered the occupants of the houses in which they were in use liable to serious danger in the event of an outbreak of epidemic disease, the contagion of which is transmitted by fæcal emanations, such as typhoid fever or cholera, the action of the Folkestone local authority would seem to have been somewhat over zealous.

## THE ELEVENTH INTERNATIONAL MEDICAL CONGRESS.

A MEETING of the English Committee was held at 1, Harewood-place, on Friday, April 28th, at 5 P.M. The following were present: Mr. T. Bryant (in the chair), Sir James Paget, Sir Andrew Clark, Sir W. Mac Cormac, Sir Dyce Duckworth, Sir J. Fayrer, Dr. Saundby, Dr. Dreschfeld, Dr. Withers Moore, Dr. C. Taylor, Mr. Shirley Murphy and Mr. Makins. It was resolved that Sir W. B. Dalby, Dr. F. Semon and Mr. C. S. Tomes be asked to join the committee with a view to bringing its constitution into closer agreement with the sections of the Congress by giving representation thereon to Otology, Laryngology and Odontology. The committee decided to facilitate the business of the Congress by giving information both in the press and privately, but considered that matters relating to travelling, lodging &c. would be more satisfactorily treated by Messrs. Cook and Son, of Ludgate-circus, with whom the hon. secretary was directed to enter into relations. It was resolved that Mr. Bryant, Sir William Mac Cormac and Sir Dyce Duckworth should form a working sub-committee, Mr. Makins to act as honorary secretary.

The committee is able to give the following information as to the most recent arrangements. Communications to be made to the Congress must be announced not later than June 30th, 1893. Abstracts of the same must be sent not later than July 31st for printing and later distribution amongst the members. The membership subscription may be paid in Rome, or at an earlier date if wished. The ticket admitting to meetings &c. will be issued in Rome and is distinct from the member's ticket referred to below, which is for use on the journey only and for which nothing is paid. Members will, however, in any case be required to obtain the following cards and papers in order to benefit by the various reductions made by the railway companies: (1) Ticket of membership; (2) letter of invitation; (3) card of legitimisation. No. 1 will be required by the English railway companies, No. 2 by the French railway companies, and No. 3 by the Italian railway companies when the member requires to proceed direct to Rome in place of taking a circular ticket. N.B.—The French and Italian railways alone give a reduction of fares; none is allowed by the Swiss or German companies. Passengers travelling direct may leave by any station on the Great Eastern, South Eastern, or London, Brighton and South Coast Railways and may travel to Rome and back for a single fare, one ticket being needed to Paris and a second to Rome. Members who wish to make a circular tour in Italy should book to one of the frontier stations, Modena or Ventimiglia, and thence can obtain circular tickets with a further reduction of 20 per cent. on the fares. These may be so arranged as to allow the passenger (1) to return to the same frontier station as he started from; (2) to start at Ventimiglia and return by Modena or *vice versâ*, (3) to start at either and return to one of the frontier stations of Switzerland or Austria (Luino, Chiasso, Ala, Pantebba, Cormons). In this case it must be borne in mind that no reduction is given on the Swiss or German railways after passing the frontier line.

The English railways admit only actual members to the reduced fares, but the French and Italian railways allow the reduction to ladies and children of members provided with the necessary papers of legitimisation properly filled up by the owner. As already mentioned, the ticket of membership issued for the journey gives no right of access to the meetings of the Congress; but ladies wishing to attend the meetings and join in the festivities can do so on obtaining a lady member's ticket, for which a subscription of ten lires (about eight shillings) must be paid. By special decree of the Government all members of the Congress, ladies or gentle-

men, will have free access to all national museums and galleries and to the works at Pompeii.

The honorary secretary (Mr. G. H. Makins, 47, Charles-street, Berkeley-square, W.) will give any information in his power regarding the arrangements of the Congress.

## BACTERIOLOGY IN LONDON.

THE vacation course of Bacteriology for general practitioners has, we are glad to hear, been greatly appreciated, and we must congratulate the London Post-graduate Committee upon the result. Twenty practitioners in all attended, three being medical men from Australia, one from New Zealand, three from Scotland, whilst the remainder were recruited from Bradford, Preston, Lincoln, Chesham, Blackheath and London. At the conclusion of the course Dr. Bell of Bradford, who has contributed valuable papers on Woolsorter's Disease (in the columns of THE LANCET) and on Anthrax and Anthracæmia, rose to address his colleagues. Dr. Bell said: "As this is the last time of meeting for this vacation of the London Post-graduate Course on Bacteriology, I am sure you will all agree with me it is appropriate that before we separate we should acknowledge our obligations to Professor Crookshank and Dr. Hewlett for their great kindness and courtesy to us during the time we have been here. I am sure we shall all carry away with us grateful recollections of our pleasant and profitable meetings. I think we should also acknowledge the ability and skill of Professor Crookshank and Dr. Hewlett in their endeavours to inoculate our minds with the spores of bacteriological knowledge; it is to be hoped that these spores will find suitable nutrient media in which they will grow and yield important results. To those who have not passed far beyond the threshold of the profession and who are full of hope, enthusiasm and possibilities I may say that I know of no department of medicine the exact study of which is so likely to yield beneficent results. I may also for you express the hope that this laboratory, which has been so much indebted to Professor Crookshank in the past and is now so much dependent upon his fostering and fatherly care, may be the parent from which cultures will be made which will develop colonies of bacteriologists in various parts of the world and that the King's College Bacteriological Department may thus have a direct connexion with the solution of some of those great questions in medicine and with the control of some of the deadly diseases which will be mastered in the near future. I have now on your behalf much pleasure in offering Professor Crookshank and Dr. Hewlett our sincere and hearty thanks for all their goodness to us during the time we have been here." Professor Crookshank, in thanking Dr. Bell and all those present, said that he had not only derived great pleasure in instructing such earnest workers, but it was a source of great gratification to him that 119 medical and scientific men had passed through the laboratory since Oct. 1st, 1892, and that since the opening of the laboratory over 500 persons, many from very distant parts, had received instruction in bacteriology at King's College.

## APPLICATION OF THE NEW FACTORY ACT.

MR. R. E. SPRAGUE ORAM, Chief Inspector of Factories, has just issued his first annual report. It will be remembered that Mr. Whymper retired from the post of chief inspector in consequence of ill-health. The report before us is of more than usual interest and importance because it is the first issued since the application of the Factory and Workshop Act of 1891. Mr. Whymper had pointed out that the principal objects of this Act were to render the inspection of workshops more efficient, especially in regard to sanitation, and to provide more efficient protection against machinery in factories. To attain these ends the Act gives over to the local authorities the sanitary charge of workshops, which was formerly undertaken by the factory inspectors. Further, the Act raised the commencing age for children from ten to eleven years, a provision which only came into force this year, and it prohibits the work of women for four weeks after childbirth. The two latter clauses are the direct outcome of the Berlin International Conference on Labour held in 1890. But, though the local authorities now have the power, they have not always the inclination to deal with the sanitary condition of workshops. In that case, the factory inspector not only reports any sanitary defects he may notice to the sanitary authority, but, if the latter take no action, the factory inspector has power, under Section 2 of the Factory Act of 1891, to take proceedings as if he were himself the sanitary authority. This extends to men's workshops and to laundries and is therefore an important addition to previous legislation on the subject. Such, briefly, with the registration of new workshops and the addresses of those who take work home, are the new features of the Act which is now coming into force. The various factory inspectors report favourably as to the working of the Act. Mr. Richmond, for the Liverpool district, says that Section 14 with regard to overtime, Section 26 as to registration of workshops, and Section 27 as to outworkers have led to several prosecutions, and now the number of notices as to overtime and as to the opening of new factories and workshops has greatly increased. The same is reported from the Newcastle-on-Tyne district. In the Midland districts 350 prosecutions were proposed and nearly all of them carried out; but there was only one case of a woman working within four weeks of her confinement. This latter grievance represents a danger to the health of both mothers and infants which in practice as well as in law has been well-nigh abolished by the Act.

According to Mr. Hine, of the Leeds district, the sanitary clauses have been very unevenly applied. Outside Leeds they still remain a dead letter. The medical officers of health of outlying districts have called the attention of their sanitary authorities to the existence of unwholesome workshops, but no action has been taken. From Bristol and from South Wales come reports of prosecutions for not registering workshops and of the consequent influx of notices that new workshops were about to be opened. It also seems that the sanitary authorities and the inspectors working under the Factory Acts are now acting more in harmony with each other. This formerly was not always the case.

At the end of the report there is a list of the convictions obtained under the Act, and this in itself suffices to show the utility of such laws. For instance, 435 convictions were obtained in the course of the year—which, in this case, ends on Oct. 31st, 1892—for employing children under the age of sixteen without certificates of fitness. It had been proposed, it may be remembered, to do away with the certifying surgeons. We protested against this at the time, and the official reports now just issued confirm us in urging the utility of such medical examination before young persons are allowed to work in factories. For various physical and mental reasons 3647 young persons and children were prevented from working out of 269,087 examined. The principal causes for such rejection were, in order of the number of cases, firstly, general debility, then diseases or loss of the eye, diseases of the skin, scrofula and diseases of the bones, diseases of the chest, anæmia and heart disease, and diseases of the ear, nose and throat; and we are glad to note that 77 children and young persons were refused permission to work in consequence of their general condition of uncleanliness.

Amongst other causes of prosecution 686 convictions were obtained for employing children, young persons or women before or after the legal hour, 451 convictions for employing children, young persons or women during meal times, and 337 convictions for employing such persons beyond the legal hour on Saturday. These are only the principal heads under which convictions were obtained. The sentences passed relating only to sanitation were not numerous. There were five convictions for exceeding the maximum limit of humidity in cotton mills, four for allowing a factory or workshop to be overcrowded, and twenty-six for neglecting to lime-wash a factory or workshop. Presumedly the convictions concerning bad drainage and such matters will be recorded by the sanitary authorities and therefore do not appear in the report of the Chief Inspector of Factories. It would be useful, however, to know how many convictions were obtained by the sanitary authorities acting in consequence of information received from the inspectors appointed under the Factory Act. Nevertheless, in spite of this slight deficiency, the report is full of most useful information, all tending to show the great improvements that may reasonably be expected to result from the rigorous application of this very beneficent measure of factory legislation.

# Public Health and Poor Law.

## LOCAL GOVERNMENT DEPARTMENT.

### REPORTS OF MEDICAL OFFICERS OF HEALTH.

*Wimbledon Urban Sanitary District.* — Mr. Pocklington advises the Wimbledon sanitary authority to add measles to the diseases to be notified under the Infectious Disease Notification Act. Although, as he says, with the present hospital provision it is not possible to isolate cases of measles, notification would nevertheless afford great assistance in dealing with schools &c During an inspection of school children, which was made in September, three were found to be freely desquamating on their hands from scarlet fever. There can be little doubt that inspection of this kind might be made with equally startling results in many other schools. In connexion with cholera precautions the surveyor was authorised to make arrangements with a tent maker to hold a marquee in readiness until the end of October. Although Dr. Seaton, Mr. Pocklington and the medical superintendent had reported adversely to the present hospital accommodation, and a carefully considered scheme had been submitted to the sanitary authority for better provision, a resolution was passed expressing an opinion that, with suitable alterations, the present accommodation might be made to suffice. New by-laws have just been adopted by the authority, and additions are to be made to the sewage farm. The general death-rate of the district was 12·β per 1000 and the zymotic death-rate 1·8 per 1000.

*Cardiff Rural Sanitary District.*—At the time of writing the report no cases of small-pox had occurred in this district, but Dr. Prichard states that it cannot be expected the immunity will last much longer, and he fears that the greater proportion of the population are not properly protected by vaccination or revaccination. The district possesses no isolation hospital, and is therefere, as the report states, quite unable to cope with the disease. In referring to the likelihood of cholera being introduced into this country during the summer, Dr. Prichard makes the pertinent remark that, though we may not be able to prevent the disease being introduced, "we can refuse its subsistence"; and he also states that "whilst we carry out precautionary measures against cholera we are destroying the nurseries of filth diseases such as enteric fever, typhus fever and diphtheria, and we are doing away with those conditions which help to make scarlet fever, measles, inflammatory and other diseases assume a malignant type." A detailed account of the work executed and nuisances abated in each parish of the district is contained in this report, and it shows evidence of considerable improvement.

*Bridlington Urban Sanitary District.*—Mr. Wetwan tells us that Bridlington has a small occasional traffic with the Baltic and that sometimes the place is visited by fleets of fishing vessels sailing from the various ports of western Europe. A sharp look-out was kept on these small craft, and those coming from infected or suspected ports were carefully inspected by Mr. Wetwan. We have on several occasions referred to the great danger with which our shores are threatened through the possible introduction of cholera by fishing smacks and we are glad to hear they are being properly looked after at Bridlington. Dr. Barry of the Local Government Board visited the town during the summer and impressed upon the sanitary committee the importance of providing isolation accommodation. A site has now been purchased and it is to be hoped that before long a proper hospital will be erected thereon. More frequent and complete flushing of the sewers is advised by the medical officer of health. The general death-rate of this district was 17·7 and the zymotic death-rate 1·74 per 1000, whilst the infantile mortality amounted to 135·3 per 1000 registered births.

*Glanford Brigg Rural Sanitary District.*—An outbreak of small-pox occurred during 1892 in this district, and the account given by Mr. Moxon of its origin is worth recording as an illustration of the manner in which the disease spreads. The first person affected was a boy aged fourteen, but the source of his infection could not be traced. His attack was so mild that neither was medical advice sought for it nor was its nature suspected. With the eruption out upon his face he one evening entered the village reading-room, in which were seated some fourteen or fifteen persons. He sat down and stayed some time. The report states that "after several days *every person* in the room fell down with the small-pox." Mr. Moxon does not give us the exact dates of exposure and attack, but apparently this was not possible, since the majority of those affected were unaware of the nature of the disease, and only three sought medical advice—in fact, before the disease was recognised some of the cases had been moving freely about the country. Mr. Moxon rightly observes that it is only by isolation of the first case that the spread of infectious disease can be prevented, but it is also necessary to add that, before isolation there must be recognition, and this, as is shown in the present instance, is often no easy matter, and more especially as regards the recognition of modified small-pox.

*Merthyr Tydfil Urban Sanitary District.*—During last year this district yielded some very high death-rates. The population was estimated at 63,155 and the general death-rate amounted to 27 per 1000. The infantile mortality was 242 per 1000 registered births. As regards zymotic diseases the death-rate was 5·2 per 1000. The high rates are partially accounted for by 176 deaths from measles, 55 from scarlet fever, 129 from convulsions and 373 from acute lung disease. There were 837 cases of scarlet fever notified, and 700 of these were of the infantile school class—i.e., from three to seven years of age. Diphtheria occurred in 41 cases and caused 14 deaths. Mr. Dyke thinks it would be a good practice in relation to dual notification if the notifying practitioner were to insert on the certificate the name of the head of the infected household. He is also of opinion that the medical officer of health should be provided with a printed form for forwarding when necessary to the clerk of the School Board, setting forth the names and addresses of the patients suffering from infectious diseases. We certainly think there is room for more coöperation between sanitary authorities and School Boards in reference to these matters. There were 22 cases and 8 deaths from puerperal fever in Merthyr Tydfil during the year, and, in consequence of the fact that some of these were attended by the same midwife, Mr. Dyke very properly cautioned the midwives to exercise every care as regards cleanliness.

*The Parish of Mile-end Old Town.*—The population of this district in the middle of 1892 was estimated at 107,811. The death-rate was 23 per 1000 as against 20·2 for the metropolis as a whole—that of the parish of St. George's-in-the-East being given as 27·8 per 1000. During the past year the sanitary staff has been engaged in carrying out a house-to-house inspection of the district, and good results have naturally accrued from it. In discussing the inspection of workshops, Mr. Taylor tells us that there are now more than 200 workshops under periodical inspection. All these have been measured and a notice has been served setting forth the number of *employés* allowed to work at the same time in each shop. Mr. Taylor is of opinion that it would be a valuable addition to the Factory and Workshops Act if it was made compulsory upon employers of outworkers, to notify to the various sanitary authorities the addresses of their *employés*. There certainly seems to be a good deal in the suggestion.

*Coventry Urban Sanitary District.*—The infantile mortality of this district has undergone considerable reduction compared with that of 1891—i.e., from 157 to 117 per 1000 registered births. Small-pox was introduced into Coventry by a tramp from Leicester, but, owing to prompt precautions being taken, the disease spread no further. Subsequently, however, it was again introduced by the same agency, that of tramps, but the steps taken were not so successful. Dr. Fenton draws attention to the constant risk of infection which tramps, migrating from place to place, cause, and he advocates greater restriction of their movements. It is certainly difficult to understand why they should not at any rate be vaccinated or revaccinated as the case may be. As we mentioned a short time ago, the Jewish board of guardians in Manchester has refused relief to those who fail to produce a certificate of vaccination or revaccination. In connexion with the duties imposed upon sanitary authorities by the Factory and Workshops Act, 1891, Dr. Fenton reports that his inspectorial staff is insufficient for the purpose, and he asks for the appointment of a special inspector.

*Ormskirk Rural Sanitary District.*—Mr. Herbert Peck's first annual report of this district, the population of which is estimated at 28,416, is a very complete one, and shows evidence of considerable activity. There were 27 cases of enteric fever notified during the year, and of them we are told that 14 were due to defective drainage and filthy surroundings. A death from chicken-pox was notified during

the year, and, as this is such a very rare occurrence, we should have been glad had Mr. Peck been able to furnish some details of the attack. An isolation hospital is sadly needed in this district; and although its necessity had been brought closely home to the authority during the year, the matter is still "under consideration," and reliance is being placed on the goodwill of the neighbouring authorities who have made proper provision for the districts under their charge. A large addition has been made during the year to the number of houses deriving their water from the public supply, and at the present time 41·8 per cent. of the inhabited houses are thus provided. During the last nine months of the year, fifty-three samples of water were submitted to the medical officer of health for analysis, and we are glad to see that Mr. Peck attaches considerable importance to the surroundings of a well in giving his judgment on the analysis. In the course of examining school absentees during the prevalence of scarlet fever at Aughton, six unsuspected cases of the disease were discovered. In Tarlston, with a population of 1756, the infantile mortality amounted to 250 per 1000 registered births, as against 118 for the whole district, and Mr. Peck is about to inquire into the cause of the discrepancy.

## VITAL STATISTICS.

### HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 6502 births and 3894 deaths were registered during the week ending April 29th. The annual rate of mortality in these towns, which had been 20·8 and 21·4 per 1000 in the preceding two weeks, declined again last week to 19·7. In London the rate was 19·0 per 1000, whilst it averaged 20·1 in the thirty-two provincial towns. The lowest rates in these towns were 12·9 in Croydon, 13·7 in Bristol, 13·8 in West Ham, 14·6 in Brighton and 14·7 in Nottingham; the highest rates were 23·3 in Liverpool and in Oldham, 24·5 in Manchester, 24·6 in Gateshead and 31·7 in Preston. The 3894 deaths included 424 which were referred to the principal zymotic diseases, against 424 and 468 in the preceding two weeks; of these, 124 resulted from measles, 89 from whooping-cough, 67 from diphtheria, 53 from scarlet fever, 37 from diarrhœa, 33 from "fever" (principally enteric) and 21 from small-pox. No fatal case of any of these diseases occurred last week in Brighton or in Derby; in the other towns they caused the lowest death-rates in Huddersfield, West Ham and Bristol, and the highest rates in Gateshead, Leeds, Newcastle-upon-Tyne, Cardiff and Preston. The greatest mortality from measles occurred in Salford, Hull, Gateshead, Leeds, Cardiff, Newcastle-upon-Tyne and Preston; from scarlet fever in Swansea and Burnley; from whooping-cough in Norwich, Blackburn and Birkenhead; and from "fever" in Gateshead and Sunderland. The 67 deaths from diphtheria included 50 in London, 4 in Manchester, 3 in Leeds and 3 in Cardiff. Six fatal cases of small-pox were registered in London, 4 in Oldham, 3 in Salford, 2 in Leicester, 2 in Halifax and 1 each in West Ham, Sheffield, Burnley and Hull; 474 cases of this disease were under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, against 321, 423 and 450 at the end of the preceding three weeks; 110 new cases were admitted during the week, against 156 and 86 in the preceding two weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2103, against 2026 and 2037 on the preceding two Saturdays; 259 new cases were admitted during the week, against 198, 267 and 259 in the previous three weeks. The deaths referred to diseases of the respiratory organs in London, which had been 416 and 390 in the preceding two weeks, further declined to 351 last week, and were 32 below the corrected average. The causes of 69, or 1·8 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Brighton, Portsmouth, Leicester, Newcastle-upon-Tyne and in four other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Salford, Preston and Sheffield.

### HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 22·0 and 22·7 per 1000 in the preceding two weeks, declined again to 20·9 during the week ending April 29th, but exceeded by 1·2 per 1000 the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 12·5 in Leith and 15·3 in Edinburgh and in Aberdeen to 24·9 in Glasgow and 25·7 in Greenock. The 538 deaths in these towns included 47 which were referred to measles, 17 to whooping-cough, 9 to diarrhœa, 7 to "fever," 6 to diphtheria, 6 to scarlet fever, and not one to small-pox. In all, 92 deaths resulted from these principal zymotic diseases, against 87 and 106 in the preceding two weeks. These 92 deaths were equal to an annual rate of 3·3 per 1000, which exceeded by 1·2 the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had increased from 41 to 58 in the preceding three weeks, declined again to 47 last week, of which 38 occurred in Glasgow and 6 in Edinburgh. The deaths from whooping-cough, which had been 17 and 24 in the preceding two weeks, declined again to 17 last week, and included 12 in Glasgow and 3 in Edinburgh. The 7 fatal cases of "fever" showed a slight further increase upon recent weekly numbers and included 5 in Glasgow. The deaths referred to diphtheria, which had been 3 and 4 in the preceding two weeks, further rose to 6 last week, of which 2 occurred in Edinburgh and 2 in Dundee. The 6 fatal cases of scarlet fever corresponded with the number in the preceding week, and included 4 in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 126 and 122 in the preceding two weeks, rose again to 149 last week, and exceeded by 10 the number in the corresponding week of last year. The causes of 45, or nearly 8 per cent., of the deaths in these eight towns last week were not certified.

### HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 21·5 and 28·7 per 1000 in the preceding two weeks, declined again to 26·0 during the week ending April 29th. During the past four weeks of the current quarter the death-rate in the city has averaged 26·3 per 1000, against 20·2 in London and 18·4 in Edinburgh. The 174 deaths in Dublin during the week under notice showed a decline of 20 from the number in the preceding week, and included 4 which were referred to the principal zymotic diseases, against 11 and 12 in the preceding two weeks. Of these 2 resulted from "fever," 1 from measles, 1 from whooping-cough, but not one from small-pox, scarlet fever, diphtheria, or diarrhœa. These 4 deaths were equal to an annual rate of 0·6 per 1000, the zymotic death-rate during the same period being 2·2 in London and 2·5 in Edinburgh. The deaths referred to different forms of "fever," which had increased from 2 to 4 in the preceding three weeks, declined again to 2 last week. The mortality both from measles and from whooping-cough also showed a decline from that recorded in recent weeks. The 174 deaths registered in Dublin last week included 18 of infants under one year of age and 45 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons were below those returned in the preceding week. Five inquest cases and 3 deaths from violence were registered; and 65, or more than a third, of the deaths occurred in public institutions. The causes of 11, or more than 6 per cent., of the deaths in the city last week were not certified.

## THE SERVICES.

### MOVEMENTS OF THE MEDICAL STAFF.

SURGEON-MAJOR-GENERAL WEBB has re-embarked for Bombay on return from leave. Surgeon-Major Flood has arrived home on completion of a tour of service on the West Coast of Africa. Surgeon-Major Baker has arrived from India on sick leave. Surgeon-Major Hoysted has been transferred from Dover to Preston. Surgeon-Captain Duggan has arrived for duty on the West Coast of Africa. Surgeon-Major Bourke has been transferred to Cork and Surgeon-Captain Greenway to Dover.

### ARMY MEDICAL STAFF.

Brigade-Surgeon-Lieutenant-Colonel James Bennett Kelly retires on retired pay (dated May 3rd, 1893). Brigade-Surgeon-Lieutenant-Colonel Robert Nasmyth Macpherson is placed on retired pay (dated April 9th, 1893). Surgeon-

Lieutenant-Colonel John Alexander McCracken, M.D., retires on retired pay (dated May 3rd, 1893).

### INDIA AND THE INDIAN MEDICAL SERVICES.

The *London Gazette* of Tuesday, May 2nd, announces the following:—Bengal Medical Establishment: To be Surgeon-Colonel: Brigade-Surgeon-Lieutenant-Colonel Lionel Dixon Spencer, M.D. (dated Oct. 24th, 1892). Retirements: Surgeon-Colonel Archibald Hamilton Hilson, M.D. (dated April 1st, 1893); Surgeon-Lieutenant-Colonel Alexander McGregor (dated April 11th, 1893); and Surgeon-Lieutenant-Colonel Kenneth Mackenzie Downie, M.D. (dated April 1st, 1893).

The following appointments are announced:—Surgeon-Captain H. Herbert, F.R.C.S., to be Civil Surgeon, Khaira. Surgeon-Captain J. Jackson, M.B., to act as Civil Surgeon, Satara, in addition to his own duties, during the absence of Surgeon-Major D. C. Davidson on privilege leave. Surgeon-Captain F. P. Maynard, Civil Surgeon, Nadia, is appointed to officiate as Factory Superintendent, Bihar Opium Agency, during the absence of Dr. Owen, on leave, or until further orders. Brigade-Surgeon-Lieutenant-Colonel R. Bowman to be Surgeon-Colonel, vice Surgeon-Colonel P. S. Turnbull, M.D., promoted. Surgeon-Lieutenant-Colonel Riddick, Army Medical Staff, has been directed to proceed to Agra on transfer to the Bengal Presidency. Surgeon-Lieutenant-Colonel Gallwey, in succession to Surgeon-Lieutenant-Colonel Riddick, has been posted to the Bombay command. Brigade-Surgeon-Lieutenant-Colonel George Thomson, C.B., is to be Surgeon-Colonel, from April 1st, 1893, vice Surgeon-Colonel A. H. Hilson, retired. The following transfers of Medical Officers are ordered: Surgeon-Major C. S. Rundle from Thayetmyo to Mandalay, to be Civil Surgeon, vice Surgeon-Captain A. O. Evans, who proceeds on furlough. Surgeon-Captain A. R. P. Russell from Toungoo to Thayetmyo, to be Civil Surgeon, vice Surgeon-Major C. S. Rundle, transferred. Surgeon-Captain C. N. Bensley, from Akyab to Toungoo, to be Civil Surgeon, vice Surgeon-Captain A. R. P. Russell, transferred. Surgeon-Captain C. L. Williams, M.D., from Yamethin to Akyab, to be Civil Surgeon, vice Surgeon-Captain C. N. Bensley, transferred. Surgeon-Major J. H. Nicholas is appointed as a temporary measure to be Civil Surgeon of Thayetmyo in addition to his military duties, from date on which he relieved Surgeon-Major Rundle. The undermentioned Surgeon-Captains having completed twelve years' service to be Surgeon-Majors: A Milne, M.B., R. J. Baker, M.D., W. A. Corkery, M. B. Braganza, S. T. Avetoom and H. W. Stevenson. Surgeon-Captain H. S. Wood passed the examination in the Manipuri language at Manipur on Feb. 4th, 1893.

### NAVAL MEDICAL SERVICE.

Staff Surgeons: George S. Smith to the *Mersey* (to date May 9th, 1893); George R. D. Charlton to the *Aurora* and Francis A. Jeans to the *Galatea* (both dated May 3rd, 1893). Surgeons: Jeremiah Sugrue, M.D., to the *Aurora* and George T. Bishop to the *Galatea* (both dated May 3rd, 1893); C. W. Sharples to the *President*, additional (dated April 29th, 1893); and George Ley to the *Mersey* (to date May 9th, 1893).

### MILITIA MEDICAL STAFF.

Surgeon-Lieutenant-Colonel T. Graham, M.D., 4th Battalion Princess Louise's (Argyll and Sutherland Highlanders), resigns his commission; also is permitted to retain his rank and to wear the prescribed uniform on his retirement (dated April 29th, 1893).

### VOLUNTEER CORPS.

*Artillery:* 1st Cumberland: Surgeon-Lieutenant C. Macculloch resigns his commission (dated April 29th, 1893).—*Rifle:* 1st Volunteer Battalion, the Duke of Cornwall's Light Infantry: John Welby Haughton, Gent., to be Surgeon-Lieutenant (dated April 29th, 1893).—5th (Isle of Wight, Princess Beatrice's) Volunteer Battalion, the Hampshire Regiment: Surgeon-Lieutenant J. Cowper resigns his commission (dated April 29th, 1893).

### THE VOLUNTEER OFFICERS' DECORATION.

The following from the *London Gazette* is a further list of members of the medical profession upon whom has been conferred the Volunteer Officers' Decoration:—*North-Eastern District.—Artillery:* 3rd Durham Volunteer Artillery (Western Division, Royal Artillery), Surgeon and Honorary Surgeon-Major Joseph Frain, retired.—*Rifle:* 1st Volunteer Battalion, the Northumberland Fusiliers, Surgeon and Honorary Surgeon-Major Thomas Stainthorpe, retired, and Acting Surgeon Daniel Jackson, retired; 1st Volunteer Battalion, the Lincolnshire Regiment, Surgeon Francis D. Walsh, retired; 4th (Nottinghamshire) Volunteer Battalion, the Sherwood Foresters (Derbyshire Regiment), Surgeon and Honorary Surgeon-Major Samuel Job, retired.—*Western District.—Rifle:* 2nd Volunteer Battalion, the Prince Albert's (Somersetshire Light Infantry), Acting-Surgeon Wm. Alfred Hunt, retired; 3rd Volunteer Battalion, the Welsh Regiment, Honorary Assistant Surgeon William Taylor, M.D., retired.—*Scottish District.—Rifle:* 2nd (Berwickshire) Volunteer Battalion, the King's Own Scottish Borderers, Surgeon Robert Charles McWatt, M.D., retired; 3rd (The Buchan) Volunteer Battalion, the Gordon Highlanders, Surgeon-Major Robert M. Wilson.

### HARDWAR.

On April 1st last the Lieutenant-Governor of the province opened two new bathing pools at Hardwar amidst much festivity amongst the natives. The two stagnant and insanitary pools at this sacred bathing place have now been cleared of slime and refuse and made into wholesome and fitting bathing tanks for the thousands of pilgrims who throng to them every year for the purpose of immersing themselves in the sacred waters of the Ganges. The bathing pool has now two outlets, which will maintain a strong current and keep the water fresh and pure. A new bathing-ghat has also been built which runs for several hundred feet below the pool, and it is a vast improvement on the old mud bank which previously served the purpose. The bathing place of the second pool has been connected with the Ganges by a masonry channel half a mile long, and a sluice admits a through flow of water. The Government has done what it can to provide for the cleanliness, sanitation and safety of the vast crowds of pilgrims who attend from time to time these religious gatherings of which we have heard so much in connexion with the real or alleged spread of epidemic cholera.

### DYSENTERY TREATED WITH IPECACUANHA *sive* EMETINA.

Our contemporary the *Indian Medical Gazette* contains in its April number a paper by Surgeon-Lieutenant-Colonel A. Crombie, M.D., Surgeon-Superintendent of the European General Hospital, Calcutta, embodying the results of his experience of the value of de-emetinised ipecacuanha. The experiment was not an exhaustive or conclusive one, for the reason that only cases of catarrhal dysentery and not the severer diphtheritic and amœboid forms of the disease were available for treatment at the time. Its use is stated to have been followed by vomiting in a considerable proportion of instances, but the vomiting, when it did occur, was not so distressing as that caused by ordinary ipecacuanha and was not a bar to its administration, nor was any laudanum given to mitigate its effect in this respect. Its administration was followed by improvement and recovery in six out of seven of the cases, and ipecacuanha deprived of emetin is certainly to be preferred to the ordinary form of that drug, in that the nausea and vomiting, when they do occur, are not of a distressing character. An essential part of the treatment consists of rest in bed and a milk diet. A great mistake is sometimes made in treating acute cases of dysentery by opiate astringents instead of, in the first instance, seeing that the larger bowel is emptied of its contents and a free fæcal flow established.

### WOUND OR INJURY PENSIONS.

The practice at the War Office in this country is to give a grant or pension from and after the date of the report of a medical board as to wounds or injuries received, whereas in India it has hitherto been the custom to grant the pension from the date of the wound or injury, irrespectively of any delay that may have occurred in making the claim. For the future, however, the practice of the War Office in England is to be adopted and followed in India in dealing with applications from Indian officers.

### THE PROPOSED ABOLITION OF THE PRESIDENCY ARMIES IN INDIA.

It is, we believe, well known that Lord Roberts is in favour of this measure and of the abolition of the local Commander-in-Chief and Headquarters Staff. These changes in the Indian Army system will, of course, bring about financial ones also and do away with many appointments and with the patronage that exists at present in connexion with the armies of the minor Presidencies of Bombay and Madras. It is calculated that over three lakhs of rupees per annum will be

withdrawn from the minor Presidencies. How far, if at all, the medical services will be affected by these changes we have yet to learn.

BRIGADE-SURGEON-LIEUTENANT-COLONEL GRAY.

The *Times of India* has a long and eulogistic article on this officer on his retirement from the Grant Medical College, of which he is the Principal, and from the Indian Medical Service, of which he is a distinguished member. Brigade-Surgeon-Lieutenant-Colonel Gray entered the service in 1866 and arrived in Bombay the same year. He has spent upwards of twenty-six years in the work of medical education in the Grant Medical College. He joined the college and hospital as Professor of Anatomy and second surgeon, with the attached duties of Curator of the College Museum. He also held other professorships; in 1882 he was appointed a Professor of Surgery and senior surgeon; in 1888 he became Principal of the Grant Medical College. He appears to have been a very energetic worker in various directions and to have done excellent and highly honourable work.

DEHRA DUN LEPER ASYLUM.

Surgeon-Lieutenant-Colonel Ruttledge, Civil Surgeon of Dehra and Superintendent of the Asylum, has published a report of that institution for the year 1892. The new asylum is built on the separate cottage system, which has been adopted with such success in the cottage hospitals in this country. The design was to consist of fifteen cottages: ten for males, of which nine have been built, and five for females, of which four have been built. As regards the ages of the inmates at the end of the year, out of 89 that were sheltered only 10 were under twenty years of age and 14 over the age of fifty, the remainder being between those ages. The daily average during the year was 101·6, and altogether 171 received shelter and relief.

ALDERSHOT.

A new hospital for infectious diseases has been for some time past one of the more urgent requirements for Aldershot Camp. We are consequently glad to learn that a board has been appointed to examine and report upon a site that has been selected for the purpose.

# Correspondence.

"Audi alteram partem."

## THE WATER-SUPPLY OF CHICAGO.

*To the Editors of* THE LANCET.

SIRS,—I am in receipt of a copy of your excellent paper containing an exhaustive article on the "Water-Supply of Chicago," and I congratulate you on this exhibition of progressive journalism. I have examined with such care as my time would warrant the article in question and shall preserve it for more careful examination later. The unwarranted and sometimes malicious statements which have been made regarding the water-supply of Chicago will be set at rest by such an able article as you have prepared. The scientific experiments carried on under your direction establish the fact beyond any question as to the water-supply of Chicago being all that could be expected for the health of a large population if the unscientific use of ice should be abandoned or so changed as to prevent the ice itself coming in contact with the water for drinking purposes.

It seems to me that such a report as you have made should be regarded as a large voluntary donation to Chicago and at the same time as a very valuable contribution to the literature connected with the greatest Exposition ever projected by man.

You have my thanks for sending me a copy of this paper.

I am, Sirs, yours respectfully,

A. F. SEEBERGER, Treasurer.

Treasurer's Office, World's Columbian Exposition.

## INTRAVENOUS INFUSION OF ALCOHOL.

*To the Editors of* THE LANCET.

SIRS,—A man aged twenty-nine years was admitted to St. Thomas's Hospital on April 26th at 4 P.M. He was suffering from strangulated right inguinal hernia. He was in a state of extreme prostration, having vomited repeatedly for five days. The vomit was yellow and very offensive. The hernia was about the size of an orange, soft and painless on palpation and could not be reduced. The abdomen was only a little distended. I saw the patient at 5 P.M. The hands were cold and there was no radial pulse to be felt. The face was cold, pale and wet with perspiration; the respiration shallow and slow. It seemed unlikely that the man could be moved to the operating theatre before death ensued. However, brandy was injected into the rectum and ether subcutaneously. He reached the theatre alive and in about the same condition. The sac of the hernia (congenital) was rapidly opened; it contained three inches of deeply congested (black) small intestine and a good deal of congested omentum of a greenish colour. The intestine was returned into the abdomen as its surface had not lost its lustre nor its substance the natural resilience. The omentum was cut away. A drainage tube having been inserted into the abdomen the wound was sewn up. The whole procedure did not take more than five or six minutes and it did not appear to cause any pain to the patient. Meanwhile the general condition became even more desperate, the carotid pulse was very feeble, the pupils dilated and each respiration seemed as if it would be the last. Mr. Pitts, who was standing by, suggested that saline infusion might be tried and Mr. Stabb kindly opened the basilic vein for me while the hernial wound was being stitched. Three pints of warm sterilised normal saline solution were infused and in each pint I arranged that there should be one ounce of brandy. Whether the man would have revived if he had had simply an infusion of normal saline solution, I do not know, but the presence of the alcohol was, I am sure, most beneficial. The effect was remarkable. In ten minutes a good pulse could be felt at the wrist, the extremities were warm, the pupils and respiration normal, the voice strong, the face became red, and the patient so wide awake and excited that a quarter of a grain of morphia was injected to secure quiet. Until midnight the patient did well, but during the last hour his strength failed though his conversation was sensible and the voice good. On passing a soft catheter no urine was found in the bladder. It was determined to again resort to infusion, and three pints of saline solution with three ounces of brandy were again introduced into the circulation. The patient again revived and went on well during the night; but at 7 A.M. he suddenly vomited and fell back dead.

The necropsy revealed nothing of importance. When the alcohol infusion was first carried out the patient was clearly suffering from exhaustion and shock, and, though I had no hope of ultimately averting a fatal issue, yet the treatment adopted brought back consciousness and life for twelve hours. During this time he was comparatively well, talked sensibly and was certainly capable of making or signing a will. I can strongly recommend others to adopt the plan of brandy infusion (2 5 per cent. alcohol) in emergencies and desperate cases.—I remain, yours faithfully,

Harley-street, W. CHARLES A. BALLANCE.

## MEDICAL OFFICERS OF HEALTH AND GENERAL PRACTITIONERS: AN IMPORTANT QUESTION.

*To the Editors of* THE LANCET.

SIRS,—Dr. Dudfield, the medical officer of health at Eastbourne, summoned me before the magistrates for having removed a child from the scarlet fever hospital at the end of three months and a week from the commencement of scarlet fever on the ground that the boy was still desquamating and infectious. A week before this time Mr. Holman, the medical man in attendance on the case, had written to say that the boy had finished desquamating and could be removed into lodgings in Eastbourne. I agreed with Mr. Holman that the boy had done so and this opinion was supported by Mr. Holman's senior partner; therefore I removed the boy. Dr. Dudfield on one examination of the boy at the end of the thirteenth week takes another view. Thus, when duly qualified practitioners take one view and the medical officer of health takes another, it appears from the subsequent progress and termination of the prosecution that the opinion of the medical officer of health is held to overrule the opinion of the other duly qualified men. Two of these could place a patient in a lunatic asylum, and yet it is held that three cannot determine when scarlet fever desquamation has terminated. This case opens a very wide question of the status and bearing of duly

qualified practitioners and medical officers of health when the opinion of the former does not accord with that of a medical officer of health of any district acting under the by-laws of the district, which he has possibly and probably been instrumental in making. I enclose a copy of the proceedings as reported in a local paper and should be obliged if you would allow such portions of it to appear in THE LANCET as will set the facts fairly before my fellow-practitioners, and I should be further obliged if you and they would express such opinions on it as may seem to you and them fitting. Thanking you in anticipation,

I am, Sirs, yours truly,

April 25th, 1893. J. G. BARFORD.

## "THE TREATMENT OF HÆMORRHOIDS BY CLAMP AND CAUTERY."

*To the Editors of* THE LANCET.

SIRS,—Several interesting communications upon this subject have lately appeared in THE LANCET. Amongst the objections used against the removal of hæmorrhoidal tumours by the clamp and cautery reference is made to (1) pain after the operation; (2) subsequent contraction of the bowel; (3) secondary hæmorrhage; (4) pyæmia; (5) tetanus; (6) mortality &c.

In 1854 I published my mode of removing hæmorrhoidal tumours.[1] I there state that "after the excision of the tumour and the application of the actual cautery no cause of irritation remains, the operation is complete and the process of repair at once commences. The wounds when seen on the following day always appear smaller than the portions of mucous membrane which have been removed. The object of the application of the cautery is not to destroy any depth of structure, but simply to seal the divided vessels which in this operation afford the only cause of anxiety. It is not necessary in the operation now described to include all the diseased or protruded membrane. The removal of some portions exerts a beneficial influence on that which is left." Although I have seen cases in which each of the accidents above enumerated (with the exception of tetanus) has occurred, in no instance, as far as I am aware, has any one of them followed the operation which I have described. 1. In those cases in which pain has followed it has been in cases where some other operation than the one which I advocate has been performed. 2. Contraction of the bowel no doubt depends upon more of the mucous membrane than was necessary having been removed. 3. Secondary hæmorrhage occurs when a slough separates; there is no secondary hæmorrhage where there is no slough. 4. Pyæmia results from decomposing matter being left in contact with the open mouths of unsealed veins. The clamp which I have now used for many years is figured in Messrs. Maw's catalogue and is also represented in my "Hunterian Lectures." It is in the shape of a long pair of scissors, curved on the flat. The extremities of the blades are curved inwards and the smaller and shorter blade passes between the two portions of the larger. This arrangement gives great security, without any undue pressure, against anything slipping from within the grasp of the clamp. If the clamp be screwed very tightly the included portion may die, and then the patient must wait until the slough separates before the process of repair can commence. When a hæmorrhoid has been fixed a portion of it is cut off by a pair of curved scissors made on the same principle as the clamp and having the same curve. The cautery is then applied. It is dabbed on a wet sponge until very little steam is produced. It may be allowed to remain for four or five seconds in contact with the cut hæmorrhoid, which may be left exposed for a minute or two longer. The pressure of the clamp is then very gradually relaxed. Should any points of blood appear these are touched with a smaller cautery of the same temperature. The cut surface of the hæmorrhoid is then left with a very thin film of ash-coloured substance, which is aseptic and produces no irritation. When the stump of a hæmorrhoid is left it does good service by keeping the surrounding parts *in situ*. If the whole be removed the wound becomes larger by the traction from the surrounding parts. The removal of a portion, say half of a hæmorrhoid, necessarily stops the natural circulation in the remainder. The stump shrinks and ceases to be troublesome.

The same principle obtains with regard to the removal of relaxed portions of mucous membrane. If a portion only be removed the surrounding parts are braced up during the process of cicatrisation. With respect to soft, vascular, bleeding hæmorrhoids, I adhere to the plan which I adopted many years ago and which was proposed by the late Dr. Houston of Dublin in the year 1843—viz., the application of strong nitric acid. This operation is comparatively painless if only sufficient precautions be used and a sufficient quantity of chalk paste be applied to neutralise the acid as soon as it is supposed to have produced its requisite action.

I am, Sirs, yours truly,

HENRY LEE,
Consulting Surgeon to St. George's Hospital.

Savile-row, April 29th, 1893.

[1] Surgical Essays, p. 150.

## EXAMINATION FEES IN LIFE ASSURANCE.

*To the Editors of* THE LANCET.

SIRS,—As you have given considerable prominence to the question of life assurance may I ask you to bring the following under the notice of the readers of THE LANCET?

A patient of mine decided to assure his life, and rather than do it all with one office he selected five, to each of which he made a separate proposal, asserting that I was his medical attendant and that he would not be examined by anyone else. Three of these applied to me in the usual way, the other two made a strong request to the proposer to be examined by their usual referees, which he distinctly refused. Shortly afterwards he informed me that both of these had accepted him as a first-class life. It was quite evident they must have ascertained that he had proposed to another office and secured a copy of my report from them. Under these circumstances I wrote and asked for a fee. One office immediately sent it to me, the other refused as follows:—

Atlas Assurance Company, Birmingham.

H. E. B., "local agent," Kidderminster.

DEAR SIR,—I am obliged to you for sending me Dr. J. L. Stretton's letter and copy of your reply thereto. I do not know that we have much to add to what you have already written to Dr. S——, but you may explain to him that it is the custom of Assurance Companies when an assurance is being divided between two or more offices for the medical examination to be conducted for one of the Companies, and this is usually deemed sufficient by all. It is purely an office arrangement and does not affect the medical officer in the slightest, his connexion with a case beginning and ending with his examination of the life, for which duty an adequate fee is usually paid.

Had Mr. H—— been willing to go to Dr. A—— we should have paid that doctor for his services, and thereafter could certainly not admit that he had any vested interest in his report.

I am, dear Sir, yours truly,

P. F. PORTWAY.

P.S.—Dr. S—— must surely see that had the whole amount gone to our office he would have received no higher fee, and he therefore loses nothing by the division of the amount between various offices to suit Mr. H——'s convenience.

I have always given my report believing that it was to enable the office to decide whether they should accept the assurance for which such report was asked, and I can fully understand that if they decided to make over part of the amount to another office it might be necessary to show the report, but I cannot think it is right under any other circumstances to make use of it. No doubt offices are wise in having their own referees; but if they are so anxious to secure business that they will not insist upon such examinations, they should surely apply to the examiner indicated direct and not ascertain the fact that he has examined the proposer for another office and so take advantage of his report, which they refuse to accept in the ordinary way, without his knowledge and without giving him his fee.

If we are to be so treated, and the word "confidential" at the head of a report does not protect us, we must always ascertain whether the proposer is applying to other offices and delay our report until all have asked for our examination; indeed, this is my reason for troubling you with the matter. I may add that I have frequently examined men under similar circumstances for two or more offices and I have been in like manner examined myself; but this is the first instance in which I have known the fee refused, for I am sure life offices in general are wishful to act liberally with the profession they are so much dependent upon.

I am, Sirs, yours truly,

Kidderminster, May 1st, 1893. J. LIONEL STRETTON.

P.S.—If, under similar circumstances, only one office is to procure the report, who is to decide which one should pay the fee? and do the others pay for the copies?

## "CASES OF CONTRACTED TENDONS."

*To the Editors of* THE LANCET.

SIRS,—In THE LANCET of April 22nd Mr. W. J. Tivy has recorded some cases of contracted tendons of the toes which he had treated very successfully by tenotomy of the extensor tendons and subsequent massage. The value of this contribution has been somewhat compromised by the use of the term "hammer-toes" as applied to these cases. This latter deformity consists originally in a flexion at the first phalangeal joint, which is produced, according to the observations of Mr. Shattock and Mr. William Adams, by a deficiency in the length of the lateral ligaments. In consequence of the downward projection of the second and third phalanges the toe is pushed up during progression till at length the extensor tendon acquires an "adapted shortening." This implication of the extensor is secondary to the defect of the ligament. It would be useless to treat true hammer-toe by dividing—that is, by lengthening the extensor tendon. The flexion of the first phalangeal joint must first be corrected either by subcutaneous division of the lateral ligaments, as practised by Mr. Adams, or by resection of the articulation, as recommended in some cases by Mr. Anderson. After division of the lateral ligaments the joint can generally be completely straightened without section of the extensor tendon, which is rarely necessary. In certain cases of talipes equinus, and sometimes without any such accompanying deformity, the extensor tendons are contracted. The appearance of the toes then much resembles that of hammer-toes. In both the toe is drawn upwards, but in the one case the first phalangeal joint is easily straightened and in the other that joint is fixed in a flexed position. It is probable that Mr. Tivy's remarks refer to cases of the first description, which can be successfully treated by tenotomy of the extensors; but such an operation applied to hammer-toe would be fruitless and bring disappointment both to the surgeon and his patient.—I am, Sirs, yours faithfully,

Queen Anne-street, W., April 29th, 1893. J. MACREADY.

## "POST-PARTUM HÆMORRHAGE."

*To the Editors of* THE LANCET.

SIRS,—The clinical lecture in THE LANCET of April 22nd by Mr. Stanmore Bishop emphasises, according to more modern teaching and knowledge, the principle I advocated some years ago in a paper entitled "Remarks on Post-partum Hæmorrhage."[1] After evacuation of the uterus of all its contents and the use of a hot antiseptic utero-vaginal douche, the next most valuable measure to adopt, both relatively and absolutely, in a case of post-partum hæmorrhage, I believe, with Mr. Stanmore Bishop, to be compression of the abdominal aorta. Its *modus operandi* he explains in terms almost equivalent to those employed by me in the paper referred to above. The methods described as in practice at Queen Charlotte's Lying-in Hospital in 1870 may be regarded as open to question in the present day; but I have no doubt that, though less scientific than those of modern procedure, they were of service in limiting the cases of post-partum hæmorrhage numerically as well as potentially, and I believe now, as then, would be of service in practice where it was found difficult to carry out more exact compression of the abdominal aorta by manual pressure.

I am, Sirs, yours faithfully,

H. CRIPPS LAWRENCE.

Sussex gardens, Hyde Park, W., May 1st, 1893.

## SARCOMA OF THE BREAST: ITS DIFFERENTIATION FROM ACUTE CARCINOMA.

*To the Editors of* THE LANCET.

SIRS,—A clinical lecture on breast tumours published in THE LANCET of April 29th contains a proposition of so much practical as well as pathological importance that I will ask your permission at once to challenge the accuracy of the latter. The student is told that immunity of the axillary lymph glands cannot be relied upon as a test of mammary sarcoma, differentiating this from carcinoma, several cases in which those organs were found palpably enlarged being adduced in support. The error involved lies in a very common confusion of the more acute instances of carcinoma-development in the female breast with true sarcoma. The rapidly growing encephaloid carcinomata of this organ form soft, greyish, granular masses, which, under the microscope, consist of round or ovoid cells, never of spindle-shaped forms. If the margins are examined, the acinar arrangement characteristic of breast carcinoma will be found; otherwise, the lesion will probably pass as "round-celled sarcoma." Little or no enlargement of the axillary lymph-glands can long be detected; these structures, however, are actually infected and after excision of the breast growth therein is rapidly progressive. *Per contra*, a sarcoma presents on section a yellowish quasi-gelatinous surface with distinct fibrillation, it is never granular; portions may be well organised, resembling a non-malignant fibroma. The microscope reveals spindle-shaped cells, ranged for the most part in bands, with, in the more acute examples, a variable admixture of roundish cells or free nuclei. No true sarcoma, arising from connective tissue cell-elements, ever fails to display fusiform cells in strands or bands, and *no doubtful tumour should ever be designated by that title in the absence of this pathognomonic badge.* The axillary glands are never infected—so, at least, said the late Dr. Samuel Gross ("Tumours of the Mammary Gland," p. 87), and for many years past I have vainly sought an instance to the contrary.

In surgical practice it is a matter of urgent necessity to avoid the confusion indicated, for, after the operative removal of a breast tumour (which, when incised, presents the grey granular-cut surface referred to), the surgeon who omits forthwith carefully to evacuate also the contents of the axillary cavity will fail gravely in his duty. Should he proceed to do this he will probably encounter some degree of enlargement previously undetected; in any case he will find evidence of deposits certain to have caused death, with abundant visceral deposits, within a few months. On the other hand, should the mass on section present the gelatinous fibrillated appearance indicative of true sarcoma, any interference with the axilla will only needlessly enhance the gravity of the operation.

I am, Sirs, your obedient servant,

HERBERT SNOW.

Gloucester-place, Portman-square, May 3rd, 1893.

## THE ETIOLOGY OF EMPYEMA OF THE ANTRUM.

*To the Editors of* THE LANCET.

SIRS,—The question as to the part which teeth may take in the causation of the condition now usually denominated "empyema of the antrum"—a question cursorily alluded to by Dr. William Robertson in his valuable paper in THE LANCET of to-day—deserves discussion. The common association of polypus and other morbid conditions of the nasal cavities with empyema of the antrum cannot be denied; but it is a disputable point whether in a majority of such cases the mischief has had its prime origin in the nose or in the teeth and antrum. It is at least certain that in a large proportion of cases of simple empyema—and probably in by far the greater number—whilst no other cause is discoverable there exists in teeth in relation with the antrum disease sufficient to account for the symptoms and for the pathological changes in the mucous membrane of the cavity. It must, however, be pointed out that it is not quite exact to speak of dental caries as the cause of these effects; they are due rather to the sequelæ of caries—exposure and inflammation of the dental pulp and alveolar abscess. Septic matter in the root canals of teeth may find its way into the antrum; or inflammation with suppuration around the apices of roots may extend to the cavity. The former accident is the more common in carious teeth which have been filled, and in which, the cavity of decay being hermetically sealed, discharges can find vent only through the apical root-foramina. In many of these cases, particularly in those in which a chronic alveolar abscess finds free vent into the antrum, toothache does not exist, and, indeed, although I and my colleague in practice in England have in late years tapped the antrum in a large number of cases, in no instance has a patient, suspecting his teeth, applied to us in the first instance. The diagnosis has always been previously made by surgical practitioners; but in a great number of instances a correct diagnosis has not been made for months and even years. These facts have been thoroughly illustrated

[1] Brit. Med. Jour., Jan. 29th, 1870, pp. 102-3.

in a series of cases seen in conjunction with Dr. Felix Semon—cases which, I trust, he will some day publish. In these cases Dr. Semon has diagnosed empyema and has eliminated every cause save a tooth. On extraction there has been invariably discovered septic infection arising from the tooth, and the cases have always been cured by assiduous antiseptic irrigation, although this in some long-standing cases has had to be persevered in for a protracted period.

I am, Sirs, yours truly,

Wimpole-street, April 29th, 1893. HENRY SEWILL.

## "THE OPIUM QUESTION IN INDIA."

*To the Editors of* THE LANCET.

SIRS,—I was much interested some time since in the discussion in THE LANCET on the opium question in India. In an experience of twelve years of medical practice in the Punjab I have had opportunities of observing the effects of the opium habit. It seems to me that a great deal more is made of the evil effects of it than is justified by the facts. Amongst the Sikhs, the finest race of men in this province, the habit is, I venture to say, well-nigh universal. Those who do not use the drug are, it might be said, exceptions to the rule. The Sikhs do not use tobacco, and hence perhaps the fact that they more than others indulge in opium, for men will have a stimulant or narcotic of some kind. It is a very common practice to give it, in the first place, to their infants to keep them from crying at night and disturbing the household. Every father knows only too well what it is to be roused at midnight to pace the floor with a crying child—i.e., if he is a generous husband and does not leave it all to the poor tired wife to do. All such troubles are, at least for the time, evaded by giving the little hopeful an infinitesimal dose of this *prima donna*, the queen of drugs. The future consequences, whatever they may be, do not concern the Sikhs, nor the rest either for the matter of that, for the practice is not confined to the race named. It is not a common failing with any of them to look ahead. That is left to *qismat* (fate), which will settle the future of the child to suit itself quite independently of any precautions on the part of its parents. As for adults, the habit generally begins with taking the drug, in the first instance, to alleviate some pain or to stop a cold or a cough (the whole race coughs). From two to thirty grains a day are taken. I have met with numerous instances of old men who have taken from twenty to thirty grains a day in two doses; but it is not conducive in any way whatever, as some imagine, to the commission of crime or to violence, or to maltreatment of wives or children, or any of the other little Christian pleasantries that are commonly indulged in by some of our countrymen who drink ardent spirits to excess. One never hears of crime being traced to the use of opium. The same is true of suicide. Opium-eaters here do not cut their throats or jump into wells or shoot themselves. I have been surprised to observe that most of those addicted to the habit, on the other hand, are strong and able-bodied and healthy men, living to the same age, so far as I know, as others. I have met with numerous instances of old men who have taken opium steadily for periods of thirty years and more and who are in every respect as active and industrious as others who have not used it. It must be added, however, that they are for the most part *zemindars* or farmers, who live an active out-of-door life, and who subsist very largely on milk. It is not pretended that the use of opium, notwithstanding the above statements, is harmless. Most of those I have met with have complained when questioned of feeling inconvenience from the habit, and I have often been consulted about a cure for it, though rarely with success. It takes effort and courage on the part of the patient as well as medicine to break it off.

I am, Sirs, yours truly,

F. J. NEWTON,
M.D Jefferson Med. Col., Philadelphia, U.S.A., Missionary American Presbyterian Church, Ferozepore.

Punjab, India.

## NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

*Infectious Disease in the North.*

SMALL-POX still lingers about the North of England. A case was reported last week in connexion with a travelling circus. At the late meeting of the sanitary authority at Stockton-on-Tees the medical officer, Mr. Clegg, reported that in the past fortnight there had been eight cases of small-pox, six of which had arisen in the house from which a patient was removed on the 9th ult.; two of them had proved fatal. Mr. Clegg, in his report on the health of Stockton-on-Tees during the past year, refers to the increase of phthisis during the year, which, he thinks, is to be attributed to the after-effects of influenza. As regards scarlet fever, its spread, he is of opinion, is mainly caused by persons visiting infected houses, and in spite of all warnings neighbours will visit. The weekly report of the medical officer of health of Leeds (Dr. Cameron) shows a further increase in the small-pox cases under treatment in the Infectious Diseases Hospital, the number on Saturday, April 29th, being 134 as compared with 111 for the week ended April 22nd. Of the 39 fresh cases reported, 38 were removed by the sanitary authorities. The total number of patients in the hospital on Saturday was 174, or an increase of 21 on the figures for the previous week.

*Ambulance Work.*

A meeting was held in the Town Hall, Alnwick, last week, at which the prizes &c. were presented to the students. The chairman referred to the rapid development of ambulance work in the country. He believed the class started in 1886 under Dr. Scott Purves was the first in the North of England. Dr. Scott Purves, at the conclusion of the proceedings, received a presentation of a handsome gold pencil-case from the lady students. At Redcar, too, the railway ambulance class has received prizes and medallions. The class there has been instructed by Mr. McKinlay.

*Homicidal Insanity.*

A wave, so to speak, of homicidal insanity has been passing over the North of England lately. At Middlesbrough a lunatic shot a policeman, who was trying to secure him, through the heart; and at Durham, last week, a lunatic shot at two bank clerks with a revolver and wounded them—happily, it is hoped, not dangerously—and then shot himself fatally. From some writing found upon the suicide it appears that he brooded over some supposed wrong, for he had an entry that "bank clerks and post-office clerks were all the same."

*Small-pox Hospitals.*

The City Council of Leeds have recently acquired the Manston Hall estate (100 acres in extent) and have erected thereon temporary wards for the accommodation of small-pox cases. A scheme is being prepared which, if carried out, will result in the construction of a large hospital for infectious cases situated about three miles from the centre of the city.

*The Out-patient Department of the Leeds Infirmary.*

The much-discussed out-patient question has been under consideration at the Leeds Infirmary and investigations have been set on foot by the board of management, who have wisely determined to extend their inquiries over a lengthened period before making any change in the present system.

Newcastle-on-Tyne, May 4th.

## IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

*The late Professor Macnamara's Appointments.*

AN election for a Member of Council of the Royal College of Surgeons took place on Tuesday last. There were four candidates for the Councillorship, Mr. Humphrey Broomfield being successful. One hundred and sixty-eight Fellows recorded their votes. Mr. Broomfield is assistant physician to Baggot-street Hospital, College Anatomist of the Schools of Surgery of the Royal College of Surgeons, and will prove an efficient member. On Thursday, the 4th inst., the Council will elect a representative of the College of Surgeons on the General Medical Council. There are five candidates for the appointment. There are several candidates for the vacant post of surgeon to the Westmoreland Lock Hospital, but it is thought probable that Mr. M. A. Donnelly, F.R.C.S., resident surgeon, will be promoted. He has been connected with the institution for the past fourteen years.

*Richmond Lunatic Asylum.*

At a meeting this week of the Dublin Corporation a report was received from Sir Charles Cameron on the insanitary state

of the Richmond Lunatic Asylum. He reported that the day-rooms and dormitories were greatly overcrowded and better accommodation was urgently demanded. A member of the council stated that there were 1000 inmates in the institution and that £17,000 a year were contributed towards its support. He suggested that the counties of Dublin, Meath, Louth and Wicklow, which gave the money, should be able to make ample provision for those living in the asylum. Sir C. Cameron's report was ordered to be sent to the governors of the Richmond Asylum.

*Omagh District Lunatic Asylum.*

The annual report shows that 183 patients were admitted during last year, making a total of 565 under treatment. The resident medical superintendent's report states: "Crowded dormitories, corridors and day-rooms do not tend to improve the health of the patients or their prospect of recovery. With dormitory space for 456 patients we have been obliged to provide accommodation for, on an average, 573 patients, whilst on April 13th we had 589 in the asylum."

*Limerick Water-supply.*

The new waterworks, lately constructed at a cost of £50,000 for bringing water from the Shannon to the city are not in such a satisfactory condition as was expected. At a recent meeting of the Corporation Mr. O'Sullivan pointed out that the sewage of Castleconnell was flowing into the river within a mile of the intake pipes. It has been decided to refer the matter to the sanitary board, but it is strange that suggestions which have been made to the Corporation as to the possible contamination of the supply source by the sewage from the villages of Killaloe and Castleconnell for a considerable time past, have been ignored by it.

*Coronership of West Kerry.*

The election of a coroner for the West Kerry district took place last week in the Tralee court-house. There had been several candidates in the field, but only one was nominated—Dr. Hayes—who was returned.

Dr. Daniel O'Driscoll has been elected medical officer of the Goleen dispensary, in succession to the late Mr. English.

*Report of the Health of Belfast for 1892.*

Dr. Whitaker, medical officer of health for the city of Belfast, has just issued his report on the health of that city for the year 1892. The deaths registered have been above the average for the past ten years and slightly greater than those of 1891. Two circumstances—the prevalence of influenza owing to the coldness of the weather in the early months of the year and an epidemic of measles in the second and third quarters of the year—account for this. Although there has been a decrease of typhoid fever and scarlet fever during the past year, there has been an increase of typhus fever; whilst the annual birth-rate for the year 1892 was 33·2 per 1000, the death-rate was 26·1 per 1000. Of the 6910 deaths registered during the past year 2874 were attributed to phthisis and diseases of the respiratory organs, 1105 being due to the former and 1769 to the latter cause. The deaths from zymotic diseases were 979, and of these measles caused 339 deaths and diarrhœa 286, whilst whooping-cough is credited with 131 deaths, typhoid fever with 108 and scarlet fever with 35. During 1892 1485 children under one year of age died and 1077 persons at or above sixty years of age. The infantile mortality—170 per 1000 births—is very high, due, Dr. Whitaker thinks, to bad sanitation, improper feeding and the neglect which must almost necessarily occur in a working-class population like that of Belfast, as well as to the prevalence of diarrhœa and measles. The terrible loss of life from phthisis is probably due to bad food, want of exercise and the rebreathing of impure air. Of the respiratory diseases bronchitis must arise as the result of the work in which many persons are engaged both in mills and factories. As to the zymotic diseases there is a marked falling off in the number of deaths from typhoid fever, whilst diarrhœa causes a much greater mortality in general than any other of the zymotic diseases. Measles caused more than one-third of all the deaths from them during the past year, whilst the deaths from whooping-cough are diminishing yearly. It is curious that the deaths from diphtheria have increased from 26 in 1891 to 43 last year. Dr. Whitaker is at a loss to explain our mortality from this cause. Again, it is remarkable that, whilst in the city of Dublin there were only 11 deaths from scarlet fever during the year, in Belfast there were 35 deaths; whilst Dr. Whitaker thinks that Belfast is not, and from the nature of its position and soil can never be, a very healthy city, and whilst he believes that its natural defective conditions, such as situation, want of sunshine, moisture of the air and low mean temperature cannot be improved, he shows that much can be done in the direction of removing the preventable causes of disease and that in this way sickness may be lessened and the death-rate reduced. 1. Something must be done to get rid of the present unhealthy system of middens as at present some 40 per cent. of the houses in the city have the plan of the privy and ash-pit combined in the small backyard, immediately contiguous to the rooms in which the inmates live and sleep. 2. To obviate the unhealthiness caused by the occupations of many of the Belfast people Dr. Whitaker suggests ventilation, an alteration of the hours of labour in the winter months, and the introduction of the electric light. 3. As to the water-supply, it would be better did it contain less organic matter, and as at present there is a Bill before Parliament to obtain a copious supply from the Mourne Mountains the water from that district—where the catchment basin is largely composed of granite—would be a distinct improvement. Cisterns should be kept clean and so placed that they can be easily reached. 4. Dr. Whitaker thinks, as Belfast is defective in hospital accommodation, that a proper hospital for infectious diseases, healthfully situated outside the city, with all modern appliances, is almost a necessity. Further, it follows that there should be compulsory notification of infectious diseases; that the medical officer of health should be the central authority to whom all such notifications should be made, so that he should know not only the district in which disease is prevalent, but the streets and the houses in which deaths take place; and, finally, there should be a disinfecting apparatus for the use of the people. Until all these points are put right—and in these respects Belfast is still terribly behind—it is useless to expect that there will be any diminution in the death-rate from zymotic diseases. In reference to the tipping stations and the manner in which they are filled up with objectionable matter, Dr. Whitaker recommends that in every case where ground which has been filled up is about to be built on it should be carefully examined with a view to testing its suitability, and a layer of asphalte or cement should in all cases be insisted on. The report is a very valuable one, and it is hoped that the Corporation will act upon the suggestions thrown out by their medical officer of health, Dr. Whitaker, the present President of the Ulster Medical Society. At a meeting of the City Council, held on May 1st, Dr. Whitaker reported that the general health of the city during the past five weeks had been fairly satisfactory, though the death-rate from chest affections was higher than he would have anticipated. The city has never been freer from infectious diseases, as with the exception of measles (which threatens again to become epidemic) there are only a few cases of the ordinary fevers and there are no fresh cases of small-pox. The death-rate was 24·5 per 1000.

May 2nd.

## BERLIN.

(FROM OUR OWN CORRESPONDENT.)

*The International Sanitary Conference.*

THE *Schlesische Zeitung* writes: "Used body linen, old clothes, used bedding and certain kinds of rags have been designated as goods, the import of which is to be prohibited in future cholera epidemics. Rags are divided into two classes—those coming from wholesale dealers and having already passed through a series of manipulations before being exported, and those which have just been collected and must in all cases be regarded as dangerous. Care has also been taken by means of definite resolutions that prohibitions of import do not exceed the absolutely necessary limits of space and time. Every endeavour has been made to facilitate passenger traffic, and guarantees have been given that the public shall not be too much interfered with. Land quarantines are not to be permitted. With reference to the carrying out of measures of maritime sanitary police, a distinction has been made between infected, suspected and unsuspected ships. Ships which have cholera cases on board when they arrive or have had such cases within the last seven days at sea before arrival are to be regarded as infected. The patients on board such ships are to be disembarked and isolated, the other inmates subjected to observation for a period not exceeding

five days and dirty linen and the like disinfected. Ships which have had cases on board during the voyage, but more than seven days before arrival, are to be regarded as suspected. These ships must be medically inspected, the dirty linen on board disinfected and their inmates *may* be subjected to observation for five days. Unsuspected ships are, as a rule, to be allowed full freedom at once. The authorities of the ports at which they arrive, however, are entitled to order disinfection and other suitable measures and to subject their inmates to observation by the sanitary police for a period not exceeding five days, reckoned from the day of departure from an infected port. In the case of coasting ships severer measures are permitted." The German Federal Council has been informed that the results of the Conference have been embodied in a convention by which the contracting States bind themselves not to overstep certain limits in their efforts to ward off cholera and to inform each other at once of the outbreak and spread of epidemics and of the precautions taken. A large number of the States represented at the Conference have already signed, or soon will sign, the convention. As soon as the convention is signed it will be laid before the Federal Council. In view of the danger of a renewed outbreak of cholera it is desired that the Governments should act on the principles laid down in the convention even before its ratification.

*The German Epidemic Bill.*

The Reichstag discussed the Epidemic Bill on April 22nd. None of the speakers entirely approved of it. Two of them regretted that the Government had not brought in a simple anti-cholera Bill, but had included the plague, typhus fever and small-pox amongst the diseases dangerous to the public. Two others, on the contrary, regretted that other diseases had not been included. One speaker objected to the proposed establishment of an Imperial Council of Health, other speakers advocated a further extension of the authority of the German Government in medical matters and a Social Democrat demanded the nationalisation of the whole medical profession. The necessity of transferring the obligation of notification to medical men was recognised on all sides, only one speaker objecting. Professor Virchow pointed out that at a time when the opinions of men of science were so divergent as at present an Imperial Act could not meet all just claims. The idea of the organisation of an Imperial medical service was unfortunately unrealisable at present. It was, however, hoped that the Bill would induce the several States of the Empire to introduce judicious and thorough reforms in medical affairs. The Imperial Home Secretary von Boetticher warned the house against indifference to this burning question, and advocated a friendly and thorough discussion of the Bill. A Hamburg senator gave a detailed account of the water-supply and the domiciliary conditions of that city. Another speaker warmly welcomed the Bill, but objected that the powers of the proposed Imperial Council of Health were not defined strictly enough. The Home Secretary declared that any sharper delimitation of the powers of the Imperial Council of Health would be welcome to him. He warmly refuted the objection of one of the speakers that the Bill would place medical men in an undignified position. An Alsatian medical man then proposed that the Bill should be sent to a committee of twenty-one.

*New Medical Publications.*

"The Cure of Tuberculosis by Creasote," by Julius Sommerbrodt—a collection of Professor Sommerbrodt's publications on this subject since 1887; "The Composition and Nutritive Value of Articles of Human Food compared with their Cost," by Professor König (sixth edition); "Infection, Fear of Infection, and the Bacteriological School," by Professor O. Rosenbach of Breslau; "The Cholera in Hamburg in 1892," by Hugo Borges; "The Necessity of State Aid in Great Epidemics, especially Cholera," by Dr. Markus Hirsch; and "Protection against Epidemics," by Dr. J. H. Vogel.

*Miscellaneous Items.*

Professor Robert Hartmann, Extraordinary Professor of Anatomy in Berlin, died the week before last.

Professor August Lucae, Professor of Otiatrics here, has been appointed Privy Councillor on Medical Affairs.

Dr. Schotten, Private Lecturer on Chemistry in Berlin University, has been appointed Professor.

It is reported as probable that Professor Erb of Heidelberg will decline the call to Vienna.

The Senate of Bremen has resolved to follow the example of Hamburg and establish a bacteriological laboratory.

In the last decade the proportion of the mortality of infants under one year to the general mortality of Berlin sank only once below 37 per cent.—viz., to 36 79 per cent. in 1885; in the other years it generally vacillated between 38 and 40 per cent.

The number of suicides in the German army last year was 252, as against 240 the year before.

May 1st.

# Obituary.

## ROBERT WELHAM, M.R.C.S., L.S.A.

THIS esteemed practitioner, whose death on April 16th at the mature age of seventy-seven years has been felt as a great loss to the more educated classes of society at Walton-on-the-Naze, commenced his medical career by obtaining the Membership of the Royal College of Surgeons of England in 1839. To this qualification he in the following year added the licence of the Apothecaries' Society. Mr. Welham, however, did not plunge at once into the cares and worries of general practice, but sought and obtained the position of resident medical attendant to Mr. Nassau of St. Osyth Priory, with whom he lived for some fourteen years, until the death of that gentleman. Thereafter Mr. Welham served as medical officer on board several emigrant ships, but gave up that occupation in favour of an appointment with his brother-in-law, the late Mr. Osmond of Thorpe. Eventually he settled at Walton-on-the-Naze, and carried on practice there with great success. He was for several years a commissioner of the town and occupied other posts of responsibility. The last year of his life was attended by severe ill-health, which resulted fatally on the date above mentioned.

## WILLIAM HALL TURNER, M.R.C.S., L.S.A.

BY the death of Mr. Turner the profession loses a typical example of the devoted and hardworking general practitioner and of the devout and God-fearing citizen. He was born on March 8th, 1814. After studying at Guy's Hospital he took his qualifications in 1835. He commenced practice in Bermondsey-square in that year and in 1837 joined in partnership there Mr. John Castle, whose daughter Louisa he married, who survives him. Mr. Turner had a large family of five sons and eight daughters, nine of whom are living. One of his sons, Mr. Arthur Newman Turner, had a large practice at Penge, but died in 1891. Mr. Turner continued in partnership for twenty-one years and did not relinquish practice till 1885, when failing health and strength compelled him to retire. For fifty years he held the office of surgeon to the Deaf and Dumb Asylum with much interest in his patients and with great courtesy to those who visited the institution. Men with thirteen children must as a rule work hard, and it is worthy of record that Mr. Turner in his fifty years of practice never left his post of duty except when laid aside with illness. Mr. Turner was a religious man and was deeply interested in the work of the London City Mission and in the religious welfare of railway employés, by many of whom he will be long and affectionately remembered. Since 1883 Mr. Turner had retired to Redhill and enjoyed his well-earned repose and the society of his family, by whom he was beloved as well as by a large number of friends and patients, who followed him to his grave in Kensal-green Cemetery on May Day.

## THE COMMENDATORE G. G. PASSERINI.

THE University of Parma, as a whole, with its Medical Faculty and Veterinary College, has sustained a severe loss in the death of Giovanni Giordani Passerini, Professor of Botany in that school. He was born in 1816 at Pieve di Guastalla in Reggio-Emilia, was educated at Parma and took brilliant honours on graduating in medicine in 1844. He was thereafter appointed Lecturer in Botany and subsequently Director of the Hortus Botanicus in that city. When the patronage of the University passed from ducal into royal hands—in other words, when Parma in 1860 became absorbed in the kingdom of Italy—the Government of Victor Emanuel confirmed Professor Passerini in his posts. He filled many offices of distinction and trust in the University, being

President of its Mathematical and Physical Faculty and Rector Magnificus from 1870 to 1885. As a botanist he had quite a European reputation, and he received academic honours from many seats of learning and scientific bodies. At the great International Congress of Botany and Horticulture, which was held in 1865 at Amsterdam, he acted as Vice-President, and his address is still remembered for its philosophic breadth and command of minute detail. Amongst his better known works may be cited his "Flora Italica," his "Metodo Analitico," his monograph "Sugli Afidi," and his classic study "Sull' Acido Carbonico emesso dalle Piante" ("On the Carbonic Acid emitted by Plants"). A student all his life, he never emerged from his laboratory, his botanic garden or his lecture-room except to take part in the proceedings of learned associations such as the Accademia dei Lincei (the Italian equivalent for our Royal Society), or to transact business in connexion with the Superior Council of Public Instruction, in both of which bodies he held high membership. A public funeral, in which all the university, the municipal, the communal and military authorities were represented, bore witness to his worth as a man of science, as a teacher, as a public servant and as a citizen.

## MEDICAL TRIALS.

### MEDICAL OFFICERS OF HEALTH AND GENERAL PRACTITIONERS.

THIS case, which was heard at the Eastbourne Police-court on April 11th, was one in which the defendant, Mr. J. G. Barford, of Wokingham, a general practitioner, was summoned for unlawfully exposing a patient who, it was alleged, was suffering at the time from a contagious disease—scarlet fever. The town clerk prosecuted on behalf of the sanitary committee and Mr. Sturges, barrister, defended. There was some conflict in the medical evidence adduced in the case which excited a great deal of interest. It would appear that the patient—Leonard Morris—was admitted to the Eastbourne Sanatorium on Dec. 12th last suffering from scarlet fever. At that institution he remained until March 11th. In the meantime the boy developed symptoms of heart disease and the friends of the patient were desirous of having him removed from the sanatorium; therefore the question arose whether the removal could be accomplished with safety, not so much with regard to the patient as to his surroundings. Mr. Barford, the family medical attendant, was thereupon consulted, and his opinion was that, inasmuch as desquamation had ceased, there could be no risk in removing the patient. Dr. Dudfield, medical officer of health of Eastbourne, and Dr. Newsholme, medical officer of health of Brighton, differed from the view held by Mr. Barford. Dr. Newsholme, in his evidence, corroborated the statement made by Dr. Dudfield that, inasmuch as there was desquamation behind the ears and in some other parts, the patient could not be said to be free from infection. This evidence was not, however, supported by Dr. Holman, who attended the boy at the sanatorium and who was of opinion that he had recovered from the scarlet fever. At the conclusion of the evidence Mr. Barford was permitted to make a statement in his defence. He affirmed that he was confident that at the time he saw the case desquamation had ceased and that in removing the patient there could have been no possible danger either to the boy or to those surrounding him. Having had 600 pupils under his medical care, he thought he was in a position to form a fair judgment as to the period when a scarlet fever patient might be pronounced free from infection and, therefore, properly removed. After a great deal of disputation between the counsel for the defendant and the occupants of the bench the magistrates retired to consult and the chairman summed up. He said he felt a certain amount of sympathy for the defendant, seeing that he was acting on behalf of a parent whose child had been an inmate of the Sanatorium for not less than twelve weeks. It was, moreover, natural that the parent should desire to have the boy brought home. At the same time the law must be upheld; in the opinion of the Bench the evidence went to show that there was wilful exposure, and they felt bound to decide against the defendant and to impose a penalty of 40*s.* and costs. A delay of three weeks was allowed to enable the defendant to appeal against the decision if he felt so inclined.

(We publish a letter from Mr. Barford on the subject in our Correspondence columns.)

### ACTION FOR WRONGFUL DISMISSAL.

At the Marylebone County Court, on Friday, the 28th ult., Judge Stonor had before him the case of "J. P. Calnan *v.* Isidore McWilliam Bourke." The defendant is the proprietor of several dispensing practices in London, and the plaintiff on Dec. 15th, 1892, entered into an agreement with him to act as his resident assistant at 20, Bramley-road, Notting Hill, at a salary of £2 per week and a certain commission. Nothing was said in the agreement as to the plaintiff's hours of attendance. He, however, attended out-patients and was present at the surgery during the usual hours. After the plaintiff had been with the defendant about three weeks the latter visited the surgery and stipulated that the plaintiff should not leave the surgery premises except to see patients or on his express permission to be given from time to time, to which plaintiff objected as being unreasonable. On Sunday afternoon, Jan. 8th, the plaintiff went to visit some friends near the surgery, giving the housekeeper their address so that he might be fetched if necessary. Whilst he was away the defendant called at the surgery and found the plaintiff out. On Jan. 9th the defendant wrote to the plaintiff as follows: "In consequence of your disobedience of orders and absence from duty I have no course open but to discharge you; I have sent a man to relieve you," and the plaintiff immediately left and brought his action for £6 1*s.* 7*d.* for wages and commission, and also for £20 damages for wrongful dismissal. The defendant counter-claimed "£100 as a penalty incurred by the plaintiff under the terms of an agreement between himself and the defendant, dated Dec. 15th, 1892, for being discharged by the defendant for good and reasonable cause given by the plaintiff within one year from the said Dec. 15th, 1892, such cause being disobedience of orders and absence from duty." The following is a copy of the agreement which was put in as evidence:—

MEMORANDUM OF AGREEMENT made and entered into this 15th day of December, 1892, between Isidore McWm. Bourke, surgeon and general practitioner, of 20, Bramley-road, hereinafter called the principal, of the one part, and Joseph P. Calnan, hereinafter called the assistant, of the other part, whereby the said principal agrees to engage the said assistant and the said assistant agrees to enter the service of the said principal as medical assistant. And the said assistant further agrees that he will, during the continuance of this contract of service, keep full, true and just accounts of all business done or moneys paid or received by him on account of the said principal in strict accordance with directions given to him from time to time by the said principal, and will on Tuesday in each week or on demand pay over to the said principal all sums of money so received by him without any deductions except such as may be allowed in writing by the said principal. And the said principal, in consideration of the said assistant devoting to him his best services, agrees to pay him the weekly sum of £2 a week and 3½ per cent. of the gross receipts and a further 3½ per cent. of the gross takings at the expiration of a year from date, and a guarantee that he shall not receive less than £150 a year, Dr. Calnan to pay Dr. Bourke for a locum if ill or absent. And it is further agreed that the payments of the salary herein provided to be paid shall be made in manner following—that is to say, each week's salary shall be paid at the end of the week following the week in which it shall be earned, so that there shall always be one week's salary in the hands of the said principal due and owing to the said assistant. It is further agreed that this agreement shall be determinable by either of the parties giving to the other of them, or leaving at his last known place of abode in England, one month's notice in writing; and it is also further agreed that if the said assistant shall leave the service of the said principal within one year from the date hereof or be discharged by the said principal for good and reasonable cause given by the said assistant within that time the said assistant shall pay to the said principal the sum of £100 as a penalty for so leaving or for so acting as to entail his discharge; and it is lastly agreed that the said assistant shall not, either by himself or by or with any other person, directly or indirectly, alone or in partnership or as an assistant, for the period of ten years subsequently to leaving or being dismissed from the service of the said principal, practise or assist any other person in practising the calling or profession of surgeon, surgeon accoucheur or general practitioner within a radius of two miles of the aforesaid 20, Bramley-road, without the written consent first had and obtained of the said principal, his executors, administrators or assignees; and should the said assistant do so in violation of this agreement, then and in such case the said assistant shall pay to the said principal, his executors, administrators or assignees the sum of £500 as liquidated and ascertained damages and not by way of penalty, and a further sum of £5 for each and every week he shall so practise in violation hereof. And it is hereby further agreed by and between the parties hereto that nothing in the last preceding clause contained, nor any action or proceedings hereunder, nor the receipt or recovery by the said principal of any sum or sums thereunder shall in any way diminish or prejudice the right of the said principal to restrain the said assistant from practising or causing or assisting any other person to practise in the district aforesaid in breach of the agreement on the part of the said assistant in that behalf hereinbefore contained; and further, that no action, proceeding or order for an injunction so to restrain the said assistant as aforesaid shall in any

way diminish or prejudice the right of the said principal to damages under the provision in that behalf hereinbefore contained, it being the express intention of the parties hereto that the said principal shall be entitled to pursue all remedies for any breach of this agreement concurrently and independently, and that no remedy or relief shall be exclusive of or preclude the said principal from obtaining any and every other remedy or relief. As witness the hands of the parties the day and year first above written.

Witness to the signature of the above-named .....

The Judge held that there were no grounds for discharging the plaintiff so peremptorily, gave him judgment for the full amount he claimed, with costs, and dismissed the counter-claim.

Mr. L. Lipscombe, instructed by Mr. Philip J. Rutland, appeared for the plaintiff, and Messrs. Angell and Co. represented the defendant.

# Medical News.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—At an ordinary meeting of the Comitia on April 27th the following gentlemen, having conformed to the by-laws and regulations and passed the required examinations, were admitted Licentiates of the College :—

Adams, E. L., Guy's.
Ashley, M., University College.
Baker, W. E., St. Geo. and London.
Barrett, W. R., Charing Cross.
Beadles, H. S., University College.
Beazeley, T. W., Birmingham.
Beddoe, D. M., Guy's.
*Bedford, R. T., Guy's.
Belben, F., Camb. and St. Bart.'s.
Beresford, E. H., Univ. Coll. and Bristol.
Bernard, R. S., King's College.
Bingley, E. H., St. Mary's.
Bond, B. W., St. Thomas's.
Bowtell, H. R., Charing Cross.
Brind, H. H., St. Mary's.
Broadbent, W., Cambridge and St. Mary's.
Brown, E., Charing Cross.
Budden, T. F., Camb. and Univ. College.
Butement, W., Otago and London.
Byles, J. B., University College.
Cardell, E. S., St. Bartholomew's.
Castellote, R. H., University Coll.
Chilton, R. H., Bristol.
Clemesha, J. C., McGill.
Coad, S. A., Leeds and St. Mary's.
Conder, A. H., London.
Cooper, R., St. George's.
Cooper, H., Guy's.
Copland, G. A., Otago and Lond.
Cox, W. M., Birmingham.
Crawford, C. R. H., St. Bart.'s.
Crowley, R. H., St. Bart.'s.
Curtis, C. W., Middlesex.
Davies, A. D., London.
D'Esterre, J. N., St. Mary's.
Dowler, H. M., Westminster.
Eccles, H. D., Guy's.
Eden, W. A., King's College.
Elliott, G., University College.
Evans, A. V., St. George's.
Evans, C. H., Cam. and St. Bart.'s.
Evans, J. M., Glas. and London.
Fielder, F. J., King's College.
*Fletcher, F. J., Birmingham.
Fletcher, J. H., Manchester.
Fox, G. A. T., St. Bartholomew's.
George, L., King's College.
Gossage, W. H., Westminster.
Hadwen, W. R., Bristol and St. Bartholomew's.
Hann, R. G., Leeds.
*Harman, A. B., King's College.
Harris, W. J., Camb. and Guy's.
Hazell, F., Guy's.
Hill, L. G., London.
Hollick, J. O., Birm. and Durham.
Holt, G. F., St. Bartholomew's.
Horrocks, J. E., Manchester.
Houghton, M. J., Birm. and Midx.
Hull, H. W., London.
Jackson, T. S., Guy's.
Jenkins, J. D., London.
Johnson, W. J., Guy's.
Jones, C. L., London.
Jones, H. M., King's College.
Keevil, G. M., Middlesex.
Kennedy, A. E., London.
Kennedy, J., London.
Kevern, G. T., Bristol.
Kilroy, L., Manchester and King's College.
Knox, R., Edinburgh.
Kyffin, J., London.
Lapthorn, C. A., Middlesex.
Laver, P. G., St. Thomas's.
Lawson, R. P., Manchester.
Little, E. G. G., St. George's.
Lord, S. T., Manchester.
Luce, R. H., Camb. and Guy's.
Martyn, G., King's College.
Master, A. E., Camb. and London.
Maurice, O. C., St. Mary's.
Milner, C. W., Manchester.
Moffatt, C. E., Guy's.
Morgan, E. J., St. Mary's.
Newman-Davis, R., St. Mary's.
Norris, G. H., St. Bartholomew's.
Nourse, S. C. M., St. George's.
Padmore, G., St. George's.
Patch, H. H. L., St. Thomas's.
Pershouse, F., St. Thomas's.
Phillips, J. E. H., Charing-cross.
Piper, F. P., St. Mary's.
Port, A. W., St. Bart. and Durham.
Pullen, R. S. M., St. Bart's.
Ransford, J. E., Bristol.
Rentzsch, S. H., King's College.
Roberts, H. C., University College.
Robertson, G. W., Lond. and Edin.
Robin, V. J., Adelaide and King's College.
Robinson, H. J., Camb. and Man.
Rogers, E. A., King's College.
Sargant, W. E., St. Bartholomew's.
Schofield, S. R., University Coll.
Sequeira, W. S. H., London.
*Simons, R. J. R. C., Brist. and Guy's.
Sloane, J. S., St. Bartholomew's.
Soden, W. N., St. Bartholomew's.
Steinthal, W. M., Manchester.
Stirk, P. H., University College.
Streatfeild, T., University College.
Sutton, E., London.
Sweetnam, S. W., St. Mary's.
Tarachand, N. M., Bombay and Middlesex.
Taylor, D. C. P., Charing-cross.
Thomson, H. C., Middlesex.
Tibbits, H., Edinb. and St. Mary's.
Todd-White, A. T., Guy's.
Turner, W., King's College.
Underwood, A. C., St. Bart.'s and Durham.
*Vorah, R. P., Bombay.
Walter, E. C., St. Thomas's.
Walton, H. J., St. Bartholomew's.
Wanklyn, W. McConnel, Camb. and Middlesex.
Ward, C. F. M., Camb. and Birm.
Weekes, H. H., University Coll.
White, W. T., Charing-cross.
Williams, J. O., Guy's.
Williams, M. J., University Coll.
Winston, W. B., Camb. and St. Thomas's.
Wood, H. U., St. Bartholomew's.
Wood, J., King's College.
Woods, H. H., Charing-cross.
Worth, C. A., St. Bartholomew's.
Young, C. A., Cambridge and St. Bartholomew's.

* Candidates who have not presented themselves under the regulations of the Examining Board.

UNIVERSITY OF DURHAM: FACULTY OF MEDICINE.—At the Second Examination for the degree of Bachelor in Medicine held in April the following candidates satisfied the Examiners and obtained Second-class Honours :—

Ernest Robert Kendall, College of Medicine, Newcastle-on-Tyne; Percy Evans, M.R.C.S., L.R.C.P., University College, London; Sebert Francis St. David's Green, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; Lewis William Richards, St. Thomas's Hospital; Henry Ernest Wells, L.R.C.P., L.R.C.S. Edin., L.F.P. and S., Glasgow and Madras Medical College.

*Pass-list.*—Bertram Addenbrooke, James Eder Harper, Charles Holmes Joy and William Henry Whitehouse, Mason College, Birmingham; Philip Oswald Andrew, Wilfrid Wanostrocht Giblin and Richard Liddon Meade-King, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; Sam Barker, Owens College, Manchester; Norman Bennett, Leopold Fothergill, Charles Hanks, Wilfred Robert Kingdon, Harold Guthrie McAllum, William Hunter Richards, Edward Tonge, William Mott Whitehouse and Reginald Worth, College of Medicine, Newcastle-on-Tyne; Octavius Beven, John Henry Blight, M.R.C.S., L.R.C.P., William Thomas Beddoes Donnelly, M.R.C.S., L.R.C.P., L.S.A., Ernest Edward Frazer, M.R.C.S., L.R.C.P., L.S.A., Walter Charles Pakes and Henry Bertram Rygate, M.R.C.S., L.R.C.P., Guy's Hospital; Robert Montague Le Hunte Cooper and James Ward Summerhayes, St. Mary's Hospital; Vyner Graham and Frederick William Page, St. Thomas's Hospital; William Ernest Rielly, M.R.C.S., L.R.C.P., University College, London; Frederick Joseph Ingor Willey, Bristol Medical School.

At a Convocation held on April 29th the following gentlemen were recommended for the Degree of Doctor in Medicine for Practitioners of Fifteen Years' standing :—

George Richard Cundell, M.R.C.S., L.S.A.; John Thomas Jones, M.R.C.S., L.S.A.; Arthur Henry Laver, M.R.C.S., L.S.A.; John Edward Norman, M.R.C.S.; Alfred Hughes Twining, M.R.C.S., L.S.A.; Gilbert Hamilton Wilkins, M.R.C.S., L.R.C.P., L.S.A.

The following gentlemen were recommended for the degree of M.D. :—

John Borrill Close, M.B. Durh., M.R.C.S., L.R.C.P., L.S.A.; Arthur John Gardner, M.B. Durh., M.R.C.S., L.R.C.P. Edin.; Wilfred Jas. Hadley, M.B. Durh., F.R.C.S. Eng.; Arthur Herbert Hart, M.B., M.S. Durh., M.R.C.S., L.R.C.P., L.S.A.; James Alfred Hutton, M.B., B.S., L.S.Sc. Durh., M.R.C.S., L.R.C.P.; William Edwin Peacock, M.B., B.S. Durh.; Henry Beddoes Wethered Plummer, M.B. Durh., M.R.C.S.; Charles William Edward Toller, M.B. Durh., M.R.C.S., L.R.C.P.; John Watson, M.B. Durh., F.R.C.S. Edin., L.R.C.P. Lond., D.P.H. Camb.

The following gentlemen were recommended for the Degree of Bachelor in Medicine (M.B.) :—

*Honours (Second Class).*—Bedlington Howel Morris, College of Medicine, Newcastle-on-Tyne; Harold Huskinson, St. Thomas's Hospital.

*Pass-list.*—George Henry Vane Appleby, John Braithwaite, Frederick Henry Browne, Eric France, Harold Ernest Gamlen, William Ewart Gibbs, William Edmund Harker, Arthur Samuel Hedley, James Henry Hunter, Daniel Noel Jackson, Ralph Norman Lishman, Rowland Venables Lloyd-Williams, Nicholas Magoris, Ogden Watson Ogden, Edward Vernon Peacock, Edmund Race, Frederick Robson, Harry Smurthwaite, Arthur Edward Thompson, and Thomas Christoffel Visser, College of Medicine, Newcastle-on-Tyne; William Henry Daniel Patrick d'Esterre, M.R.C.S., L.R.C.P., and Harvey Francis, M.R.C.S., L.R.C.P., St. Mary's Hospital; William Thomas Beddoes Donnelly, M.R.C.S., L.R.C.P., L.S.A., Guy's Hospital; William Alexander Dow, M.R.C.S., L.R.C.P., Arthur William Port, M.R.C.S., L.R.C.P., Noel Florentine Rowstron, and Charles Nash Crosby Walch, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; William Fellowes Fisher, London Hospital; Francis William Fullerton, M.R.C.S., L.R.C.P., St. Thomas's Hospital; Thomas Hartigan, Medical School, Catholic University, Dublin; Walter William Hodgins, M.R.C.S., L.R.C.P., University College, London; Henry John Mathews, L.R.C.S., L.R.C.P.I., College of Surgeons, Ireland; Joseph Briscoe Stephenson, Middlesex Hospital.

The following gentlemen were recommended for the Degree of Bachelor in Surgery (B.S.) :—

George Henry Vane Appleby, John Braithwaite, Frederick Henry Browne, Eric France, Harold Ernest Gamlen, William Ewart Gibbs, John Stratford Hall, M.B. Durham, William Edmund Harker, Arthur Samuel Hedley, James Henry Hunter, Daniel Noel Jackson, Ralph Norman Lishman, Rowland Venables Lloyd-Williams, Nicholas Magoris, Bedlington Howel Morris, Ogden Watson Ogden, Edmund Race, Frederick Robson, Harry Smurthwaite, and Thomas Christoffel Visser, College of Medicine, Newcastle-on-Tyne; William Henry Daniel Patrick d'Esterre, M.R.C.S., L.R.C.P., and Harvey Francis, M.R.C.S., L.R.C.P., St. Mary's Hospital; William Thomas Beddoes Donnelly, M.R.C.S., L.R.C.P., L.S.A., Guy's Hospital; William Alexander Dow, M.R.C.S., L.R.C.P., and Arthur William Port, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; Francis William Fullerton, M.R.C.S., L.R.C.P., St. Thomas's Hospital; Thomas Hartigan, Medical School, Catholic University, Dublin; Walter William Hodgins, M.R.C.S., L.R.C.P., University College, London; Joseph Briscoe Stephenson, Middlesex Hospital.

UNIVERSITY OF EDINBURGH.—The following gentlemen recently received the degrees of M.B., C.M. :—

J. R. Armstrong, Abergele, North Wales; F. E. Gunter, West Kensington, London, S.W.; F. W. Sydenham, Queen's-road, Walsall.

ROYAL UNIVERSITY OF IRELAND.—The following gentlemen have passed the Third Examination in Medicine of the University :—

*Upper Pass Division.*—John Dundon, E. P. McLoughlin, Jeremiah

O'Callaghan, Timothy J. O'Meara. (The above may present themselves for the further examination for honours.)

*Pass Division.*—Robert H. Allan, David Barry, James P. Cashman, Louis A. Crinion, Jas. Cunningham, Amelia G. Grogan, Walter Herron, William Hunter, Edith B. Joel, Thomas D. Luke, John H. McBarney, James Munce, David O'Donnell, James J. O'Shea, John P. Rice, Joseph Roantree, Patrick J. Scannell, John R. Thompson, Christopher Turner, and Joseph H. Whitaker.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS IN IRELAND: CONJOINT SCHEME.—The following gentlemen have passed the Final Examination of the Scheme:—

J. Armstrong, F. C. Bushman, T. C. Cummins, W. H. Langley, A. X. Lavertine, W. L. Martin, J. H. Maunsell, J. A. Morgan, A. E. McCann, H. J. McCormack, J. G. McIannahan, T. Redahan, W. A. Wills.

*Passed in Medicine.*—E. Cairns, P. J. Liston, C. J. Nally, and J. C. Woodside.

*Passed in Surgery.*—E. Cairns, E. L. Hunt, P. J. Liston, A. J. Moran, W. O'Donnell, T. A. Poirotte, A. H. White, and J. C. Woodside.

*Passed in Midwifery.*—L. E. Butler, W. H. Hornibrook, P. J. Liston, A. J. Moran, W. O'Donnell, W. G. T. Posnett.

*Passed in Hygiene.*—S. E. Butler, W. J. Coneys, R. C. Fisher, T. C. Harte, W. H. Hornibrook, E. L. Hunt, A. J. Moran, C. J. Nally, W. O'Donnell, T. A. Poirotte, and A. H. White.

THE EARLSWOOD ASYLUM FOR IDIOTS.—The annual general court of this asylum was held at Cannon-street Hotel, London, on April 27th. The report showed a most satisfactory condition of affairs, the past year being described as "one of steady physical and mental development." The income for the year was £37,105, but annual subscriptions showed a falling off of £200. The report was adopted.

THE past and present students of the Normal School at Paris have presented to M. Pasteur a vase, with suitable ornamentation, designed by M. Gallé of Nantes.

THE LONDON ORPHAN ASYLUM, WATFORD.—On Saturday, April 29th, the eightieth anniversary dinner of this institution was held at the Hôtel Métropole, London. The Duke of Connaught, who presided, in giving a history of the asylum, said that since its foundation in 1813 5575 children had been admitted. At present there were 530 under the care of the institution. The educational arrangements were most admirably carried out and the demands by city firms for boys trained at the asylum were so numerous that the managers were unable to meet them. £16,000 was needed for maintenance and only £1000 was derived from investments. Donations to the amount of £2950 were announced.

LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY.—A Meeting of Council was held at 57, Harley-street, on Monday, April 24th, at which Dr. Heron presided; 130 new members were elected. Mr. Mead reported successful meetings and new branches formed at Cambridge, Bury St. Edmunds and West London. The secretaries reported that two dentists had been warned to cease using the title "Dr.," to which they were not entitled, and that they forthwith agreed to do so; that they had forwarded to the Registrar-General particulars of death certificates signed by an unqualified practitioner who used the name of a registered practitioner and that the case would be brought before the General Medical Council. The action of the Emergency Committee in undertaking the defence of a member from whom compensation was claimed was approved by the Council. Other cases were dealt with and instructions given. Dr. Woods reported cases where Indian oculists had cut portions of the conjunctiva from the eyes of persons hopelessly blind from optic atrophy, leading them to suppose that they were removing a "skin" to which blindness was due, and promising a certain cure, which they had, of course, failed to effect. He stated that there were more than twelve of these oculists practising.—The first annual meeting of the Northumberland branch of this Society was held in the Library of the Royal Infirmary, Newcastle-upon-Tyne, on Saturday, April 29th. Mr. Walter Ridley, M.B. Durh., F.R.C.S., President of the branch, was in the chair, and a number of members of the Society were present. The members proceeded to elect additional Vice-Presidents and members of Council. Dr. F. Russell proposed, and Dr. Mostyn seconded, that Dr. G. H. Hume should be elected a Vice-President of this branch. This was carried unanimously, and then Dr. C. U. Laws, Mr. Forrest (Warkworth) and Dr. Francis W. Clark (hon. secretary) proposed that the following names should be added to the list of members of the local council: Mr. G. B. Craig (Willington-on-Tyne), Mr. John Cromie (Blyth), Mr. R. J. Foulis (Wylam-on-Tyne), Dr. H. M'Lean (Corbridge), Dr. George Ogg (St. Anthony's) and Mr. Clark Newton (Newcastle).

A NEW HOSPITAL FOR FALMOUTH.—The foundation-stone of a new Falmouth Hospital was laid by Mr. Passmore Edwards on Wednesday last. The cost of the building is estimated at £1500, and this sum has been generously given by Mr. Edwards. He has also conditionally offered to defray the total cost of furnishing the hospital and to give the New Free Library of the town 1000 volumes.

THE RICHMOND HOSPITAL.—Last week the Duke of Cambridge presided at a dinner at Richmond in aid of the new building fund for the Princess May's Ward for Children. The Duke of Teck was present and the Duchess of Teck and Princess May entered the gallery of the dining-hall shortly before 9 o'clock. The Duke of Cambridge in proposing the Royal toast said that the Queen had expressed her consent to give her patronage and a donation to the hospital whose interests they were met to promote. In proposing "The Princess May's Ward at the Richmond Hospital," the chairman said he sincerely hoped that the result of their meeting would be a substantial aid to that ward. What they wanted was £5000, and he was very proud to be able to announce that one gentleman present had offered to subscribe £1000 to endow a cot for ever. He earnestly hoped that prosperity would attend the formation of the Princess May's Ward and the hospital generally. The total subscriptions announced amounted to £2800.

## NOTES IN PARLIAMENT.

### *Proposed New Form of Legal Inquiry into Sudden Deaths in Scotland.*

A DEPUTATION consisting of representatives of trades unions and trades councils in Glasgow, Edinburgh, Aberdeen, Dundee, Dunfermline and other places in Scotland waited upon the Lord Advocate on Thursday at the House of Commons to press upon him the need for a public inquiry in all cases of sudden death and death arising from accident. The general sense of the deputation was to have a system of inquiry on the lines of the English system. The Lord Advocate, in the course of his reply, explained that the Government were in favour of having a public inquiry into accidents occurring in industrial employments, and he had framed a Bill for that purpose. He did not consider that the services of a jury would be necessary so long as they had a competent tribunal. As to any inquiry into sudden deaths, there was not the same unanimity in Scotland, and in the circumstances he thought it would be very undesirable to deal with them in the Bill he had framed.

*Vivisection.*

In the House of Commons on Monday a return was ordered, on the motion of Mr. Herbert Gladstone, showing the number of experiments performed on living animals during the year 1892 under licences granted under the Acts 39 and 40 Vic., c. 77, distinguishing painless from painful experiments.

*Housing of the Working Classes.*

A Bill for facilitating the operation of the Housing of the Working Classes Act has been introduced into the House of Commons by Mr. Stern, Mr. Francis Stevenson and others. Briefly, it transfers the powers now vested in the rural sanitary authorities of England and Wales to the county councils of their respective districts; but, further, it stipulates that in all cases of appeal from the county council to the Local Government Board the decision of the Local Government Board shall be final. Then the Bill goes on to explain that county councils in rural districts shall have the power to purchase land and build labourers' cottages thereon, but stipulates that such cottages must have gardens of at least a quarter of an acre in size. The sum to be paid for such land is never to exceed twenty-five years' purchase, estimated on the existing value as established by poor rates actually paid. Under these conditions the purchase is compulsory.

*Swine Fever.*

It is reported that the departmental committee appointed by the Board of Agriculture at the commencement of the present session of Parliament with the object of inquiring into the working of the provisions of the Contagious Diseases (Animals) Acts in so far as they relate to swine fever, and to the conditions under which swine are affected therewith, as well as to consider whether any more effective measures can be adopted for its prevention and extirpation, are of opinion that the administration of the Acts, so far as they relate to that disease, together with the payment of compensation for compulsory slaughter of diseased and suspected pigs, should be transferred

from the local authorities to the Board of Agriculture. It is also stated that the advantages which have resulted from the adoption of this course in the case of the contagious pleuro-pneumonia of bovines are widely appreciated, and that, fortified by the expression of independent and expert opinion which the inquiry has elicited, the President of the Board, Mr. Herbert Gardner, may be expected to lose no time in introducing a Bill authorising the suggested changes. It appears that the committee have also recommended that the scale of compensation for compulsory slaughter be raised from £4, the present allowance, to £8, and that steps be taken to ensure improved sanitary conditions in all places where swine are kept.

*Stillbirths in England and other Countries.*

In the House of Commons on Thursday, May 4th, Dr. Cameron asked the Secretary of State for the Home Department whether he could state when the return of "Stillbirths in England and other Countries," for which an address was voted by the House of Commons on May 9th last, on the motion of Viscount Grimston, would be issued to members.—Mr. Asquith said that the delay in this matter had arisen from the necessity of communicating with foreign Governments. The return was now in the hands of the printers and would shortly be presented.

*Payment of the Medical Staff in India.*

In reply to a question by Dr. MacGregor, Mr. George Russell stated that the question of the payment of the medical staff in India was now under the consideration of the Secretary of State, and it would not, therefore, be desirable to lay the correspondence before the House until it was completed. The communications relate to recommendations for increased pay to medical officers in charge of military hospitals in India, which had been made in a despatch to the Secretary of State, signed by General Wilson.

*Dr. Copeman's Recommendations to the Lowestoft Authorities.*

Mr. Harry Foster asked the President of the Local Government Board whether he was aware that Dr. Copeman recently paid a visit to Lowestoft as a representative of the Local Government Board in order to instruct or advise the port sanitary authorities as to the steps to be taken by them for providing against the importation of cholera; that he advised a large expenditure in fresh sanitary arrangements, the purchase of a steam launch and the increase of the salary of the medical officer and his staff, and on being pressed by members of the town council as to how the expense was to be met replied that the Local Government Board would not contribute a farthing towards the cost unless the recommendations were carried out in their entirety. He further asked what office Dr. Copeman held in connexion with the Local Government Board and whether he had made similar statements to other port sanitary authorities in the kingdom; lastly, what course the President proposed to take to secure to the Lowestoft port sanitary authorities repayment of the money spent by them on the representations of an officer of the Board.—Mr. Fowler, in reply, said that Dr. Copeman, who was one of the medical inspectors of the Local Government Board, visited Lowestoft in March last for the purpose of advising the port sanitary authority as to the steps which it was desirable to take with a view to providing against an importation of cholera. He made certain recommendations to the port sanitary authority with regard to the maintenance of precautions which he already found in operation, to some modifications which were in his opinion desirable and to certain additional inspection of vessels which might have to be put into operation if need should arise. The arrangements actually in operation at the date of his visit were held by him to be in the main satisfactory, and he had therefore no occasion to advise a large expense in further arrangements. Being pressed on the question of a subvention from Imperial funds, he stated that at that date no decision had been arrived at as to the applications which had been made to the Government on the subject. At the same time he expressed the opinion that any such contribution, if made, would only be granted subject to the conditions being fulfilled which were necessary to the carrying out of the Cholera Regulations. The Local Government Board were not aware that the port sanitary authority of Lowestoft had incurred any expenses beyond those for carrying out their duties under the regulations.

*The Rivers Pollution Bill*

In the House of Lords on the 27th ult., this Bill, the object of which is to correct a practical defect in the working of the Act of 1876 relating to rivers, was read a second time.

*Grocers' Licences.*

In the House of Commons, on the same day, Sir R. Hanson inquired of the Chancellor of the Exchequer if grocers' licences were intended to be included in the Liquor Traffic (Local Control) Bill, and to that query the right hon. gentleman replied in the affirmative.

*The Local Government Bill.*

On the 28th ult. Mr. Gladstone, in replying to Mr. Logan, said Ministers were strongly of opinion that it would be better to postpone further proceedings on this Bill until it was possible to devote more attention to the Government of Ireland Bill.

*Swine Fever.*

Mr. Gardner, in answer to a question put by Mr. Round, said the report of the departmental committee on this subject had just reached him, and he hoped a copy of it would be circulated in a day or two.

*The Income Tax.*

Sir F. Milner drew the attention of the Chancellor of the Exchequer to a statement which had been made to the effect that under Schedule D of the Income Tax the assessments of professional men had been largely increased without any justification.—The Chancellor of the Exchequer, in reply, said he had no reason to suppose that anything of the kind had taken place.

*Equalisation of Rates in London.*

In the House of Commons, on May 1st, Mr. H. Fowler moved for leave to bring in a Bill for the purpose of equalising the rating of the various parts of London, and to distribute the rate amongst the sanitary authorities of the metropolis according to the respective numbers of their population, relief being given where it ought to be given and burdens imposed where they ought to be imposed.

*Cycling Accidents.*

On the 2nd inst., Mr. Asquith, in reference to the reported accidents at Garstang in connexion with cycling, to which attention was called by the Marquis of Granby, said he was informed that the results of the accident had turned out to be not of a serious nature. Such information as he had would appear to show that the number of accidents arising from cycling was not larger than that arising in connexion with other vehicles. The question of the registration and numbering of cycles was, said the Home Secretary, attended with great difficulty, and the commissioner of the metropolitan police had formed the opinion that the existing law, if vigorously enforced, would be found adequate to secure the protection of the public.

*St. Asaph Cemetery.*

Mr. H. Lewis asked if the attention of the Home Secretary had been called to the fact that in the St. Asaph Cemetery graves had been opened in which coffins had been interred within fifteen inches from the surface of the earth.—Mr. Asquith said the cemetery referred to was a private one and not at present under the authority of the Secretary of State, but by the regulations under which it was conducted an interment could not take place unless a space of not less than four feet be allowed between the top of the coffin and the surface of the earth. If found necessary he would take steps to have the ground placed under the Home Office regulations.

*Cholera Regulations.*

Mr. Foster asked the Chancellor of the Exchequer whether he was prepared to reconsider his refusal to grant some assistance from the Imperial Exchequer towards defraying the cost of any special expenditure incurred by local authorities to prevent the importation of cholera. The Chancellor of the Exchequer said he had nothing further to add to the answer he gave to the deputation a few days ago.

*Sickness in the Coldbath-fields Post Office.*

On the 6th inst. Mr. Graham asked the Postmaster-General whether there had been a large increase of sickness amongst the money order clerks since the removal of this branch of the service from Aldersgate-street to the disused prison in Coldbath-fields, and whether the removal of this branch to Coldbath-fields, which was stated to be temporary four years ago, was now intended to be permanent; and, if not, when would it be removed.—Mr. A. Morley said that he had visited the office himself as his predecessor had done. He had also received several reports from the medical officer of health and had come to the conclusion that there was really no ground for regarding the premises as insanitary. Since the transference the average sick absence had not been abnormal, except during the last two years, and even then it was not higher than in the rest of the offices. The sanitary arrangements were reported to be in good working order.

## DEATH CERTIFICATION.

THE Select Committee of the House of Commons on Death Certification resumed its inquiry on Friday, April 28th, under the presidency of Sir Walter Foster.

MR. BRAXTON HICKS, Coroner for South-west London and the Kingston District of Surrey, stated, in reply to the Chairman, that his experience as a full coroner extended over a period of ten years. At the request of the Coroners' Society he had drawn up certain suggested amendments to the Registration Act. These amendments would be considered by the Society at the annual meeting in June. The first suggestion was that all stillbirths should be registered. He found that unauthorised or authorised persons took upon themselves the responsibility and ran the slight risk of calling any child a stillbirth. They wrote this down upon a piece of paper which was taken to the undertaker, who then considered himself justified in going on with the burial without further inquiry. Witness had good reason to believe that this was largely done. His difficulty in the matter of these so-called stillbirths was to get hold of the body in order to hold an inquest. He had a case at Battersea some years ago in which a midwife gave a certificate of stillbirth although the child had been alive for three days. The matter was entirely in the hands of the undertaker as to whether or not he would bury the body as a stillbirth, but when once information reached the ears of the coroner he could soon deal with the case. His suggestion was that every stillbirth should be registered on the certificate of a registered medical practitioner. He was told by medical men that there were cases of stillbirth which were unmistakable, but in the case of a child born alive and said to have been stillborn the truth could only be found out by means of a post-mortem examination. The case he had referred to where the child lived for three days would never have been brought home without a post-mortem examination. There was a great deal of doubt in the legal mind as to what was a separate legal existence. He would suggest that a separate legal existence should be an existence independent of the fœtus. In the absence of a certificate by a registered medical practitioner he would have the case referred to the coroner with the view to inquiry being made. Personally, he would very much prefer that this inquiry should be conducted by some medical officer appointed for each district. From his experience he had not the slightest doubt that a large amount of crime was covered by the expression "still-birth." The Committee were no doubt aware that there was a large number of cases of newly-born children abandoned in the streets of London and other large towns and in the commons and parks. His opinion was that a great deal of this crime was due to lying-in houses which were not registered and which were free from any supervision. It was common to find that the children had been smothered, or had their heads bashed, or their skulls broken. It was a peculiar coincidence, and one he had reported to the Chief Commissioner of the Police, who had been most energetic in trying to solve the difficulty, that at certain times they had a concurrence of newly-born children found, their deaths all occurring at the same period of time and in the same way. This pointed to one person having one particular mode. It was impossible to conceive that the mother did the mischief in all these cases.

Between 1885 and 1892 the cases he had committed for trial had been thirteen for manslaughter and seven for murder, but in the same period of the newly-born children who had been so found dead and upon whom he had held inquests there were fifty-nine cases in which a verdict of "wilful murder" had been returned. Besides there were a great many cases of stillbirth found in the river. The bodies had been thrown away in order, perhaps, to avoid shame or to save the cost of burial. He had suggested to a great many of the vestries and guardians that they should send out a notice offering to bury stillbirths. If they did so it would be a great saving to the parish and the State. A body could be buried by the guardians for half a crown, whilst the expense of an inquest with post-mortem examination must be at least £3. He had a case recently in Lambeth where a midwife took upon herself to give a certificate of death for a child seven days old. She certified that the child had died of "inanition and convulsions." Since he had been in the district he had given orders to the registrars that they were not to accept the certificate of any midwife or unqualified person, and so it was that this certificate was sent to him. He found that the child had been seriously ill for three days and that it had died from pressure of the brain due to a fracture. The jury returned an open verdict. When he remonstrated with the midwife she told him she had attended thousands of cases, that she had given certificates wherever she liked and that the registrars had accepted them. She said the registrars had accepted her certificates for twenty years past, and he had no reason to doubt the truth of the statement. He knew that some of the registrars had been very much surprised when he told them that they must not accept these certificates. His next suggestion was that no death should be registered unless the informant produced to the registrar a certificate stating the cause of death, signed by a registered medical practitioner. The present Act allowed a registrar, should he choose to do so, to legally take his information as to the cause of death from an unauthorised person or a person with no proper knowledge of the matter. As to the cases not certified by a registered medical practitioner, he would say that they should be referred to the coroner in the first instance. Then the coroner would say to the medical man attached to the office, "Here is a case that is not certified; will you go and make a post-mortem examination and report to me?" In the meantime the coroner would proceed with his judicial inquiry. If he found the results of that inquiry to agree with those of the medical inquiry, then a certificate for burial might be made out. Such an arrangement would to a great extent shut the door to abuse. He found in the course of his work that certificates of death were often given in a very loose way. They were often incorrect as to the cause of death. Sometimes the medical man stated that he had attended on a later date than was consistent with the fact. He had been told of a qualified medical man who, when he went away for a holiday, left behind him a book of blank certificates signed with his name. Such a man was, of course, liable to a penalty. Asked how he would make the risk of punishment greater, witness said he would like to see a better class of men holding the office of registrar. Amongst the Lambeth registrars he found such men as vaccination officers, tobacconists, Baptist ministers, photographers, stationers and fishmongers. These were taken at random from the official list. Taking a rural district, he found such men as saddlers, schoolmasters, farmers, coal agents, farmers' sons, wheelwrights, solicitors' clerks &c. Before making an appointment inquiry should be made as to the fitness of the applicants. Registrars should have sufficient education to understand the medical terms put before them by medical men. At Kingston a child was bitten by a dog which had bitten one or two other people. The child died and the doctor gave a certificate of rabies. The certificate was taken to the registrar, who asked, "Rabies—what is that?" "Well," said the informant, "I think it means bitten by a dog." "Oh, then," responded the registrar, "the case must go to the coroner." And so it did, and in consequence of the inquiry held witness traced the dog and the animal was killed, which was surely something gained. He would like to see the form of certificate altered. He would like to have it clearly stated when the medical man first saw the patient, when he last saw the patient alive and when he saw the dead body. "Knowledge and belief" were sometimes construed in an extraordinary fashion by medical men and were altogether misleading. He would have the certificate sent direct to the registrar and not handed to the relatives or friends of the deceased, and he would make the furnishing of the certificate a statutory duty on the part of the registered medical man in attendance. A certain amount of extra trouble would be involved and he would reward it with a fee. He cordially agreed with Sir Spencer Wells in what he said as to the value and importance of this matter. Public money could not be better spent than in securing certificates as to the cause of death from registered medical men. In country districts, where the medical man might have to go a considerable distance in order to certify a death, he thought there might be a special allowance. Another suggestion he had to put before the Committee was that no order for burial should be issued by the registrar unless the death was registered. Further, he submitted that every order for burial, whether given by the coroner or by the registrar, should be produced to the authorities of the cemetery before the burial takes place, and that these authorities should keep a register of all the bodies buried. Where it was desired to bury outside the ground legally authorised information should be sent to the coroner or the registrar, and the precautions he had suggested for ordinary burying grounds taken. Wherever the burial might take place, he would make it a statutory offence to neglect these precautions. A case occurred within his experience in which an undertaker alleged that he had lost the burial order. He did not take the trouble to come to witness for another, but left the coffin, with the body, in his shop window for a month. Another curious case occurred to him. There were some allegations as to the mode in which a certain man came to his death. He had not given the order for burial, but an undertaker came and put the body in a coffin and screwed it down. Next morning the doctor arrived to make an examination, and when the coffin was opened it was found to contain two newly-born children as well as the man. Witness had inquiry made. The undertaker was able to produce two certificates from medical men whom witness could trust thoroughly. They were really stillborn children, but he had no guarantee that they were stillborn popped in like this. He believed the practice was not uncommon, and he thought it should be treated as an offence. Exhumation was very useful at times. In the case of Matilda Clover the body had been buried for seven months, and Dr. Stevenson found strychnine on exhumation. He told witness that he had never before found strychnine after so great a lapse of time. He explained that the portion of Tooting Cemetery in which the body was buried was absolutely dry, and that the body had a shrivelled appearance and was not decomposed in the ordinary way. Witness had heard Sir Henry Thompson's evidence, and he thought that with the precautions taken at Woking there was little chance of poison not being detected; but he would go further than Sir Henry Thompson did—he would say that if Woking were in his district he would insist upon a post-mortem examination upon every body cremated there. He could do that upon his own authority. He would also insist upon the retention of certain viscera or portions of viscera. Returning to the question of certification, witness said it should be made obligatory on medical men to use the form of certificate issued by the Registrar-General.

By Sir Stafford Northcote: He was aware that a strong sentimental objection existed against the mutilation of bodies. In the case of cremation, however, he thought sentiment might be left out of the question altogether. He did not consider that suspicious deaths were by any means confined to the poorer classes, and consequently he would like to see the precautions he had suggested applied in all cases.

By Dr. Cameron: If a medical man were to be appointed as assessor to the coroner it would be desirable to have as coroner a man belonging to the legal profession.

By Mr. Brookfield: It was no offence to keep a body in an undertaker's shop window unless a nuisance were created thereby. What he suggested was that burial should take place within a reasonable time after the granting of the order.

Mr. ALFRED SINGTON, counsel to the Burial Reform Association, examined by the Chairman, said he had given a good deal of attention to the burial laws, and he found there was nothing to prevent a burial taking place without any registration at all or even without information of the death being given. Information would be given after the burial had taken place, but that was not enough. He did not think exhumation should be adopted; it was a clumsy method of doing that which should be done before interment. His view was that no interment should take place without a proper certificate or without a medical inspection of the body. He would like to see this medical inspection done by a public official in consultation with the practitioner who had been in attendance on the deceased. Witness explained in detail the French system of certification, and advocated for this country the appointment of medical officers to certify the cause and the fact of death. As to burial witness emphasised the view that means should be devised for identifying bodies and for preventing the substitution of one body for another.

The Committee then adjourned.

## The Committee met again on Tuesday, May 2nd.

Mr. FREDERICK WALTER LOWNDES of Liverpool was the first witness examined. In reply to the Chairman he stated that he held several public appointments in Liverpool and had been in practice as a surgeon there since 1868. His attention was first directed to the subject of death certification when he was assistant to Mr. Thomas Gray in Poplar. He had care of the workhouse in Mr. Gray's absence. In December, 1865, or January, 1866, a man was admitted in a dying state and he died four days later, having been unconscious all the time. On making inquiry he found that the man had been removed from a lodging-house, where he had been attended by a surgeon. This gentleman notified that the disease from which the man suffered was not of an infectious character, and added, "He is sure to die, and I will give you the certificate now." As a matter of fact the certificate was made out whilst the man was living. It stated that he died on the 14th, whereas he did not die until the 18th. No action was taken in the matter. The visiting officer burned the certificate and witness supplied a fresh one. As to stillbirths, there were really no regulations whatever up to the year 1874, and the greatest variety of proceeding existed. Sometimes a certificate of stillbirth was asked for, sometimes it was not. One of the medical men to whom he acted as assistant was himself a registrar of births and deaths. He had a very large district, comprising twenty parishes, and, with few exceptions, the deaths had been attended by him and he had to certify them. Such an arrangement had its advantages as well as its drawbacks. As to drawbacks, it opened the door to an unscrupulous man to pass over a death that ought to be reported to the coroner. On the other hand, a medical man had the advantage of knowing the district well and the circumstances of particular cases. He had his eye, too, upon the midwives. Witness had seen a good deal of midwifery practice in Liverpool and could speak of some of the irregularities in connexion with stillbirths. He found that a very great number of women used to give certificates who could not even sign their own names. All they could do was to make a mark. They could not read, and consequently did not know what they were signing or certifying. In consequence of gross irregularities discovered, the coroner's beadle used to inspect the certificates and the bodies. He was a man of some experience and could detect any very gross irregularities and report them to the coroner. He professed to be able to tell a stillborn from a deceased child by looking at it. He was certainly a very careful observer. In certain cases not only a medical man, but even a layman or a midwife, might be able to discriminate; but such cases were very rare. He himself would hesitate to give a certificate of stillbirth without a post-mortem examination of the cavities. He might form a strong opinion on the subject without a post-mortem examination, but not an opinion sufficient to enable him to certify. It would be a speculative and not a scientific opinion. This duty had been performed in Liverpool by the beadle until recently. The passing of the Registration Act and the stringent regulations now enforced by the cemetery authorities had done something towards putting the matter right. In his opinion every stillbirth ought to be registered. He did not think that medical men should certify as to a fact of which they had no personal cognizance. In his own case he generally made a point of seeing the body. Many medical men did the same, but it was not a general practice. He regretted this. There ought to be some verification of the death and he did not see why the medical man should not verify as well as certify the death. He did not think that anybody should be buried without the certificate of a registered medical practitioner. The form of certificates for still-

births issued by the Registrar-General was defective in this respect that it did not mention the sex of the child.

Dr. Cameron: We have been informed that the stillbirths are not registered and that there is no form of certificate.

Mr. Lowndes assured the Committee and the hon. member that the Registrar-General had issued some forms. He had seen them, and any medical practitioner could obtain a supply of them by making application to the registrar of his district. Mr. Braxton Hicks had cited a case where the bodies of two children were found in a coffin supposed to contain only the body of a man. Witness contended that this was a breach of the 19th Section of the Births and Deaths Registration Act, which made it clear that nothing of the kind could be done unless it was declared beforehand that the other two bodies had been placed in the coffin and the certificate and burial order obtained for them. He admitted, however, that such irregularities were extremely difficult of detection. As to the certificates given by medical men, they should contain not only a verification of the fact of death and a full statement of the cause of death, but particulars should be recorded upon the counterfoil. Many, but not all, practitioners were careful to fill up the present counterfoil. He thought they should be encouraged to fill it up. In his opinion the forms sent out by the Registrar-General should be scheduled and they should not be obtained without some trouble. He would have both the certificate and the counterfoil numbered, so that they could be traced. He regarded the post-mortem examination in all cases where there was any doubt as to the cause of death as extremely valuable. He would like to see post-mortem examinations encouraged and the popular dislike to them removed or at any rate alleviated. He had made post-mortem examinations without fee and purely for the satisfaction of having the death properly certified. He remembered a case where a man died in his chair. The coroner desired witness to give a certificate that the death was due to natural causes. He declined to do so without a post-mortem examination, on which being held death was found to be the result of heart disease. He might mention that the most interesting post-mortem examinations were frequently those in private practice. In his opinion medical men should insist more than they did on a post-mortem examination before granting a certificate. Some practitioners had held, in consequence of the wording of Section 20 of the Births and Deaths Registration Act, that they could not refuse to give a certificate of death. He thought that the second subsection should be amended by the introduction of the words "if the death be in all respects a natural one," and that there should be a rider, or a fourth subsection, to the effect that in any case where death was unnatural or sudden, the cause of which was unknown, or under any circumstances that required an inquest, the practitioner should refuse a certificate and report the case to the coroner. At present a practitioner was often very unwilling to refuse a certificate because it put him in a false position with his patient. In 1872 he attended a woman in her confinement. She had serious haemorrhage afterwards, and in consequence stimulants had to be given and she became restless. Very unwisely the child was laid by her side and in the night she must have overlain it, for it was found dead, evidently suffocated. Witness refused to give a certificate and referred the matter to the coroner. He had never been called to that house again. The husband was very indignant, although the coroner assured him that witness had only done his duty. In 1879 he attended a woman who died from syphilis. The friends were anxious that he should suppress the real cause of death, averring that they would lose the club money if he entered it in the certificate. He told them he was sure the club would not decline to pay on that account and that, whatever the result might be, he must state the true cause of death. Such cases put medical men in a very awkward position and he was afraid that sometimes incorrect certificates were given. He had mentioned this case of overlying to a medical friend and he said he would have had no hesitation in giving a certificate of death. There was a good deal of unnecessary fear of the coroner's court. People were apt to imagine that in refusing to give a certificate a medical man virtually accused them of foul play or neglect. Such was not the case. There were cases which ought to be referred to the coroner where there was not the slightest suspicion of foul play. In Liverpool all uncertified deaths and doubtful certificates were referred to the coroner, and he thought that course should be universally adopted. He knew for a fact that the registrars in Liverpool did refuse to register any death without a medical certificate. If alcoholism were given as the cause of death there would be a reference to the coroner. The number of inquests held in Liverpool during the twelve months ending Sept. 29th, 1892, was 967—586 males and 371 females—and in addition there were 766 cases where inquiries were made by the coroner, but no inquest held. There were four verdicts of wilful murder and eight of manslaughter. The deaths of seventy-eight males and forty-one females were attributed to natural causes. Witness then gave a detailed account of the medical history of the poisoning cases which occurred in Liverpool ten years ago. These cases, he said, were insurance murders. Medical men were sent for prior to the death of the victim and they granted certificates, most of them giving pneumonia as the cause of death. Had such an inquiry been made as that sketched by Sir Henry Thompson, the fact that the deaths were unnatural would undoubtedly have been revealed, and he thought that ordinary inquiry would at least have excited suspicion. What therefore he suggested was more careful and independent inquiry, either by the medical attendant himself or by another medical man. It was most important that the cause of death should be cleared up as soon as possible after the occurrence of the death. It was not essential, in his opinion, but very desirable, that there should be an examination of the body after death prior to the certificate being given. In his opinion no certificate of death should be accepted from any medical practitioner unless it were in the authorised form scheduled in the Act. His experience did not lead him to suspect that burial alive occurred. To send a corpse to a ward or to send a living person to a mortuary would be little short of a crime. He had never heard of such a thing happening. The certificate should be gummed at the edge with a view to being returned folded and sealed to the registrar. There were many difficulties in the way of sending it direct to the registrar. He thought it could be sent by some one responsible for the burial, or by some one interested—not in a bad sense—in securing the burial. He would make it a matter of stern duty for medical men to certify deaths, to do it without fear or favour, and to receive a fee for their work. He would suggest that notice forms to coroners might be furnished to medical men. In that way medical men would be encouraged to call the attention of coroners to doubtful cases. Reverting to the subject of stillbirths, witness said that the cemetery authorities charged more for the burial of a deceased child than for a stillbirth. There was no good reason for the distinction, which frequently led to fraud. Stillbirth was more or less a preventable cause of death. Anyone who had seen midwifery practised, and particularly amongst midwives, would be aware that many stillbirths might have been prevented by there being proper medical attendance. Abortion was prevalent in Liverpool, and he was afraid that the making away with children immediately after birth was more frequent than it should be. It appeared to him to be a better plan to make certification popular amongst medical men than to relieve them of this duty and impose it upon a public official. There would certainly be some advantage in having a public medical officer to appeal to in cases of difficulty. The present system had its advantages as well as its drawbacks, and he would seek to enhance the former and reduce the latter.

By Dr. Cameron: There was no "pit burial" now in Liverpool.

By Dr. Farquharson: In his opinion no body should be buried unless the order for burial were produced.

Mr. CHARLES WALDEN, President of the United Medical Herbalists of Great Britain, examined by the Chairman, said he had asked to be allowed to tender evidence. He practised as a medical herbalist in Dukinfield, Cheshire. The society of which he was President consisted of over 100 members, mostly resident in Yorkshire and Lancashire. It was founded in 1877 to unite those who practised as medical herbalists to take care that they were persons of good repute and to spread the principles of medical botany. No one was allowed to enter the society until he or she had been four years in practice. The committee of the society held a qualifying examination in such subjects as the natural order of plants and their properties for the treatment of disease. Members were mostly employed in the factories during the daytime and had no opportunity for studying anatomy or physiology. The diplomas of the society were not recognised by the law of the land, although the holders of them were considered by the society competent to treat diseases other than surgical. Should any of their patients die, they gave the relatives a notification of the death and if there was any one present at the time of death they asked him or her to sign the notification before it was sent to the registrar. A great many of these notifications were accepted by registrars. During the last twenty years they had given as many as 397 notifications. In connexion with forty-one of these there had been coroners' inquests, and in two cases the herbalist had been censured, not for neglect of the patient but for giving a certificate of death. The work of the members of the society was carried on principally amongst the poorer classes. They worked in poor districts of towns where medical men would not enter because of the slight chance of getting fees. He was confident that if the society ceased to exist many of the poor would go without medical advice and he supposed the rate of mortality would be higher than it was at present. Members of the society did not assume any title or represent themselves as registered medical practitioners. They simply gave themselves out to be medical herbalists. He desired to claim on behalf of the society the right to grant medical certificates of death. Their present position satisfied them, but they did not want the privilege they now possessed taken away and they were afraid that after this investigation death certification might be made so stringent as to have that effect.

The Chairman: Then your evidence comes to this, that you consider your craft is in danger if the law be made more stringent in reference to death certificates?

Mr. Walden: Yes.

The Chairman: And you think that would be an evil to the public as well as to your own body?

Mr. Walden: We do. In reply to Dr. Cameron witness gave the following as a specimen certificate: "I take leave to notify that —— has died at ——. He was under my care for two months, suffering from bronchial asthma. Signed ——, medical herbalist."

By Mr. Hozier: The society had two members in Scotland and one at the Cape of Good Hope. In addition to this there were two societies of medical herbalists in England.

By the Chairman: Medical practitioners certainly did not meet in consultation members of his society, but amongst medical herbalists there was an understanding that one should help the other in serious cases. He would act along with a herbalist who was not a member of his society if he found him worthy. To test his worthiness he would put him under examination. If he knew of his own knowledge that he was not worthy, he would decline to meet him.

Dr. Cameron: But what about the patient meantime? If he died for want of your assistance, would there not be a serious moral responsibility upon you?

Mr. Walden: Yes; but if he were a reputable practitioner and told me it was a serious case I should wire him to get the relatives to call in a legally qualified practitioner. I certainly should not waste any time.

By the Chairman: In serious cases their desire generally was to obtain the attendance of a legally qualified medical practitioner. It was possible, but not probable, that if a patient died under his charge he (Mr. Walden) might be brought up on a charge of manslaughter. In such an eventuality he certainly would be in a less favourable position to defend himself than a legally qualified man.

The Committee then adjourned.

# Appointments.

*Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to* THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BEARD, T., L.R.C.P., L.M.Irel., L.R.C.S.Edin., has been appointed Medical Officer to the Ancient Order of Foresters' Court 3102.

BETENSON, W. B., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Seventh Sanitary District of the Depwade Union, vice Williams, deceased.

BROWNE, G. H., L.R.C.P.Edin., L.F.P.S.Glasg., has been reappointed Medical Officer of Health for the Brynmawr Urban Sanitary District.

BURLAND, J. A., L.R.C.P., L.R.C.S. Irel., has been appointed Medical Officer for the Prees Sanitary District of the Wem Union.

CLEGG, WALTER, M.R.C.S., has been reappointed Medical Officer of Health for the Boston Urban Sanitary District.

CHRISTOPHERSON, C., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant Surgeon to the White Rock Hospital, Hastings.

CLIBBORN, WM., M.D. Durh, L.R.C.S., L.M. Irel., has been reappointed Medical Officer of Health for the Bridport Urban Sanitary District.

DAVIES, J. W., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer of Health for the Ebbw Vale Urban Sanitary District.

DAWSON, CANTLEY, M.D. Durh., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer of Health for Rawdon.

DAWSON, W. H., M.D. Durh., M.R.C.S., has been appointed Medical Officer of Health for the Malvern Urban Sanitary District of the Upton-upon-Severn Union.

DRAPER, T. M., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Wiggenhall Sanitary District of the Downham Union.

EVERS, C. J., M.D. Durh., M.R.C.S., has been reappointed Medical Officer of Health for Faversham Borough and Port Sanitary Authority.

FYFFE, W. KINGTON, M.B. Camb., M.R.C.P. Lond., has been appointed Pathologist to the City of London Hospital for Diseases of the Chest, Victoria-park.

GALE, A. K., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Rural Sanitary District of the Eccleshall Bierlow Union, vice Aldred, resigned.

GOODFELLOW, JAS. A., M.B., C.M. Glasg., has been reappointed Medical Officer of Health for the Brampton and Walton Sanitary Districts.

GOWRING, B. W., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to the Radcliffe Infirmary, Oxford.

HAMILTON, ARCHIBALD A., L.R.C.P., L.R.C.S., L.M. Edin., has been reappointed Medical Officer of Health for Crowle.

HEATHER, LEWIS D., M.R.C.S., L.R.C.P., has been appointed House Surgeon to King's College Hospital.

HITCHINS, T. H., M.R.C.S., has been reappointed Medical Officer of Health for the Shinton-on-Stour Union.

HORSFALL, HENRY, M.D. St. And., M.R.C.S., has been reappointed Medical Officer of Health for the Bedale Rural Sanitary District.

KUNZ, H. DE D., M.B., C.M. Edin., has been appointed Medical Officer to the Oddfellows' Lodge, Lossiemouth, Elgin, vice Miller.

LANSDOWN, F. P., M.R.C.S., has been appointed Honorary and Consulting Surgeon to the Bristol General Hospital.

LANSDOWN, R. G. P., M.D. Durh., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant Surgeon to the Bristol General Hospital.

LAWSON, T. C., M.R.C.S., has been appointed Medical Officer for the Fourth Sanitary District of the St. Albans Union, vice Disney, resigned.

LAWSON, DAVID J., M.D., M.S. Edin., has been appointed Medical Officer of Health for the Portland Urban Sanitary District of the Weymouth Union, vice McLean, resigned.

LEVACK, J. R., M.B., C.M. Aberd., has been appointed *pro tem.* Medical Officer to the Royal Infirmary and Eye Institution, Aberdeen.

LITTLEJOHN, J. R., M.B., M.S. Glasg., has been appointed Medical Officer for the Munslow Sanitary District of the Ludlow Union, vice Ormerod, resigned.

LITTLETON, P. E., M.R.C.S., has been reappointed Medical Officer of Health for the Ashbourne Urban Sanitary District.

LITTLEWOOD, J. O., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer of Health for the Rural Sanitary District of the Mansfield Union.

LONGTON, GEO. H., M.R.C.S., L.R.C.P., has been appointed Assistant House Accoucheur to King's College Hospital.

LUMSDEN, GEORGE, M.B., C.M. Glasg., has been reappointed Medical Officer of Health for the Pateley Bridge Rural Sanitary District.

LYNASS, JAS., M.B., B.Ch. Irel., has been appointed House Surgeon to the Union Infirmary, Belfast, vice Munn.

MACDONALD, GREVILLE, M.D., has been appointed Assistant Physician to King's College Hospital, with special charge of Throat Department.

MACDONALD, THOS. FINLAYSON, M.B., C.M. Edin., has been appointed Resident Physician to the Royal Hospital for Sick Children, Edinburgh.

MARSHALL, J. R., M.B., C.M. Glasg., has been appointed Medical Officer of Health for the Borough of Bowness.

METCALFE, G. H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Fourth Sanitary District of the Sudbury Union.

ORSMAN, W. J., has been appointed Public Analyst for the Borough of Southport.

PEARCE, W. H., M.R.C.S., has been appointed Medical Superintendent for the District Asylum of the Poplar and Stepney Sick Asylum District.

PHILLIPS, CHAS. M., L.R.C.P. Lond., M.R.C.S., has been appointed Resident Medical Officer to the St. Pancras and Northern Dispensary.

RODWELL, E. M., M.R.C.S., has been appointed Medical Officer for the Second Sanitary District and the Workhouse of the Loddon and Clavering Union, vice T. H. B. Rodwell, deceased.

RUSSELL, JOHN R., M.R.C.S., L.R.C.P., has been appointed House Surgeon to King's College Hospital.

SHARP, H. C., B.A., M.B., B.C. Cantab., has been appointed Resident Obstetric Surgeon to Guy's Hospital.

SMITH, T. WADDELOW, L.S.A., has been appointed Physician Accoucheur's Assistant to King's College Hospital.

SMITH, W. R., M.B., has been appointed House Surgeon to King's College Hospital.

TREVELYAN, E. F., M.D., M.B., has been appointed Pathologist to the Sunderland Infirmary.

TURNER, WILLIAM, M.R.C.S., L.R.C.P., has been appointed Assistant House Physician to King's College Hospital.

WARNER, THOMAS, M.R.C.S., L.R.C.P., has been appointed Physician's Assistant to King's College Hospital.

WATSON, D. CHALMERS, M.B., C.M. Edin., has been appointed Resident Physician to the Royal Hospital for Sick Children, Edinburgh.

WHITEHOUSE, JOHN, F.R.C.S. Eng., has been appointed Honorary Surgeon to the Sunderland Infirmary, vice Maling, resigned.

# Vacancies.

*For further information regarding each vacancy reference should be made to the advertisement (see Index).*

BRISTOL GENERAL HOSPITAL.—House Surgeon, for three years. Salary £120 per annum, with board, residence &c. in the house.

DUNDEE ROYAL INFIRMARY.—House Surgeon, for twelve months. Salary £40.

HALIFAX INFIRMARY AND DISPENSARY.—Assistant House Surgeon; unmarried. £50 per annum, with residence, board and washing.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, Bloomsbury, W.C.—House Physician, for six months. Salary £20, with board and residence in the hospital.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.—Resident Medical Officer as House Surgeon, for six months. Salary £20, board and residence in the hospital.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, Bloomsbury, W.C.—Medical Registrar and Pathologist, for one year. Honorarium of 50 guineas at the end of that term.

JESSOP HOSPITAL FOR WOMEN, Sheffield.—House Surgeon, unmarried. Salary £50 per annum, with board, lodging and washing.

LONDON HOSPITAL, Whitechapel-road, E.—Medical Registrarship. Salary £100 per annum.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST AND THROAT.—Resident Medical Officer, at Bowden, Cheshire. Salary £60 per annum, with board, apartments and washing.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Examiners.

ROYAL FREE HOSPITAL, Gray's-inn-road, London.—Junior Resident Medical Officer, for six months. Board and residence provided in the hospital.

ROYAL HOSPITAL FOR CHILDREN AND WOMEN, Waterloo-bridge-road, S.E.—Anæsthetist and Registrar. Honorarium 20 guineas per annum.

ROYAL ORTHOPÆDIC HOSPITAL, 297, Oxford-street, London.—Resident House Surgeon and Apothecary. Salary £100 per annum, with partial board.

RUBERY-HILL ASYLUM, near Bromsgrove.—Clinical Assistant.

SEDBERGH UNION.—Medical Officer and Public Vaccinator for the Parish of Dent. Salary £50 per annum, exclusive of certain usual fees. Apply to the Clerk to the Guardians, Sedbergh, Yorkshire.

# Births, Marriages and Deaths.

## BIRTHS.

BAKER—On April 25th, at Fairlawn, Strawberry-hill, the wife of Brigade-Surgeon-Lieutenant-Colonel T. Y. Baker, retired, Army Medical Staff, of a daughter.

CRONK.—On April 22nd, at Repton, the wife of Herbert G. Cronk, M.B., of a daughter.

DAVIES.—On April 19th, at Lansdown, Stroud, Gloucester, the wife of Albert Barnes Davies, M.R.C.S., of a daughter.

FOX.—On April 24th, at Slindon, Vale-road, Ramsgate, the wife of C. N. Fox, A.B., M.B., M.Ch. &c., of a son.

OWEN.—On April 30th, at 3, St. Alban's-place, Blackburn, the wife of O. Trafford Owen, M.B. Edin., of a son.

PARSONS.—On April 28th, at Cassland-road, South Hackney, N.E., the wife of Charles W. Parsons, M.R.C.S., L.S.A. Lond., of a son.

SPILSBURY.—On April 25th, at The Pleydells, Warbleton, Sussex, the wife of F. J. Spilsbury, L.R.C.P. &c., of a son.

STURMER.—On April 24th, at West Kennett, Marlborough, Wilts, the wife of Surgeon-Major A. J. Sturmer, Indian Medical Service, of a daughter (stillborn).

## MARRIAGES.

ARKWRIGHT—WILSON.—On April 26th, at All Saints' Church, Kenley, Dr. Joseph A. Arkwright of Halesowen, Worcestershire, to Ruth (late Sister Elizabeth, of St. Bartholomew's Hospital) Wilson.

DOVE—STOCKWELL.—On April 28th, at St. Mark's Church, South Norwood, Percy William Dove, M.R.C.S., L.R.C.P., of Crouch-hill, to Caroline Elizabeth Helen Stockwell of Cumberlow House, South Norwood.

MITCHELL—RAMSAY.—On April 27th, at St. George's, Hanover-square, Robert Nathaniel Mitchell, M.D., of Fitzjohn's-avenue, N.W., to Clara Margaret, widow of the late Richard Harris Ramsay of London, Calcutta and Bangkok.

## DEATHS.

BURGESS.—On May 2nd, at Palestine-place, Cambridge-heath, N.E., in the 82nd year of his age, Frederick Joseal Burgess, F.R.C.S., L.R.C.P.

LITTLE.—On March 17th last, at Culverden, Amuri, New Zealand, William Little, M.D., late of Liverpool, in the 46th year of his age.

STRITCH.—At his residence, 27, Victoria-road, Battersea-park, Dr. William Francis Stritch, of typhoid fever. Remains will be removed at 9.30 on Friday morning from Pro-Cathedral, Marlborough-street, Dublin, for interment in Glasnevin Cemetery. R.I.P.

TURNER.—On April 27th, at Sterndale-road, West Kensington, William Hall Turner, M.R.C.S., L.S.A., late of Bermondsey-square, S.E., and Redhill, in his 80th year.

*N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages and Deaths.*

## METEOROLOGICAL READINGS.

*(Taken daily at 8.30 a.m. by Steward's Instruments.)*

THE LANCET Office, May 4th, 1893.

| Date. | Barometer reduced to Sea Level and 32° F. | Direction of Wind. | Dry Bulb. | Wet Bulb. | Solar Radia in Vacuo. | Maximum Temp. Shade. | Min. Temp | Rainfall. | Remarks at 8.30 A.M. |
|---|---|---|---|---|---|---|---|---|---|
| Apl 28 | 29·96 | N.E. | 48 | 46 | 104 | 67 | 44 | .. | Cloudy |
| ,, 29 | 29·93 | S.W. | 52 | 47 | 108 | 66 | 46 | .. | Cloudy |
| ,, 30 | 30·01 | N.W. | 55 | 47 | 100 | 61 | 45 | .. | Cloudy |
| May 1 | 30·11 | W. | 53 | 52 | 91 | 63 | 44 | .. | Cloudy |
| ,, 2 | 30·02 | S.W. | 53 | 50 | 101 | 66 | 48 | .. | Cloudy |
| ,, 3 | 30·10 | W. | 59 | 54 | 99 | 69 | 53 | .. | Cloudy |
| ,, 4 | 30·36 | N.E | 52 | 51 | 99 | 70 | 50 | .. | Hazy |

# Medical Diary for the ensuing Week.

### Monday, May 8.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays, at the same hour.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; and on Tuesday, Wednesday, Friday, and Saturday at the same hour.

ST. MARK'S HOSPITAL.—Operations, 2 P.M.; Tuesday, 2.30 P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2.30 P.M.; Friday, 2 P.M.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, daily at 10 A.M.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M.; and each day at the same hour.

CHELSEA HOSPITAL FOR WOMEN.—Operations, 2 P.M.; Thursday, 2 P.M.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M.; and on Thursday at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.

UNIVERSITY COLLEGE HOSPITAL. Ear and Throat Department, 9 A.M.; Thursday, 9 A.M. Eye Department, 2 P.M.

LONDON POST-GRADUATE COURSE.—Royal London Ophthalmic Hospital: 1 P.M., Mr. W. Lang: Lacrymal Affections.—101, Gt. Russell-st.: 8 P.M., Dr. Galloway: Morbid Conditions of the Heart.—Parkes Museum (Margaret-st., W.); 3.30 P.M., Dr. Parkes: Disposal of Refuse.

### Tuesday, May 9.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.

CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Skin Department, 1.45; Saturday, 9.15.

ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electrotherapeutics, same day, 2 P.M.

LONDON POST-GRADUATE COURSE.—Hospital for Skin Diseases, Blackfriars: 4 P.M., Mr. Jonathan Hutchinson: Eczema and its Allies.—Bethlem Hospital: 2 P.M., Dr. Percy Smith: Hypochondriasis.—101, Gt. Russell-st.: 8 P.M., Dr. Herman: Face Presentations.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—Dr. Clement Dukes: The Immediate Effects of Excessive Muscular Exertion.—Mr. Alban Doran: Large Cystic Myoma of Uterus of over twelve years' duration Removed by Enucleation; Recovery; with Notes on Cystic "Fibroids."

### Wednesday, May 10.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1.30 P.M.; Saturdays, 2 P.M. Obstetrical Operations, Thursdays, 2 P.M.

CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.

ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.

LONDON HOSPITAL.—Operations, 2 P.M.; Thursday and Saturday, same hour.

ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.

GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M. Dental Department, 9.30 A.M. Eye Department, 2 P.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.

CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.

LONDON POST-GRADUATE COURSE.—Hospital for Consumption, Brompton: 4 P.M., Dr. C. Theodore Williams: Cases of Heart Disease.—Royal London Ophthalmic Hospital: 8 P.M., Mr. A. Stanford Morton: Retinal Affections.

### Thursday, May 11.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M. Ear and Throat Department, 9 A.M. Eye Department, 2 P.M.

LONDON POST-GRADUATE COURSE.—Hospital for Sick Children, Great Ormond-st.: 4 P.M., Mr. E. Owen: Clubfoot.—National Hospital for the Paralysed and Epileptic: 2 P.M., Dr. Beevor: Locomotor Ataxia.—London Throat Hospital (Gt. Portland-st.): 3 P.M., Dr. E. Law: Examination of the Throat and Nose.—Central London Sick Asylum: 5.30 P.M., Mr. John Hopkins: Clinical Lecture.

NEUROLOGICAL SOCIETY OF LONDON (Physiological Laboratory, University College).—8.30 P.M. Dr. W. Hale White: Some Effects of Removal of the "Arm Area" of the Cortex.—Dr. Sherrington: Skin Fields of the Upper Sensory Roots.—Prof. Horsley and Dr. Kramer: An Experimental Investigation of the Effects of Gunshot Wounds of the Brain.—Dr. Risien Russell: The Results of Cerebellar Lesions in Dogs.—Mr. R. Boyce: Ablation of the Cerebral Hemispheres in Mammals.—Dr. Brunton and Dr. Carruthers: Experiments in Elucidation of the Pathology of Treadler's Cramp.

### Friday, May 12.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Eye Department, 2 P.M.

LONDON POST-GRADUATE COURSE.—Hospital for Consumption, Brompton: 4 P.M., Dr. C. Theodore Williams: The Prognosis of Phthisis.—Bacteriological Laboratory, King's College: 11 A.M. to 1 P.M., Prof. Crookshank: Cultivation of Bacteria (Cultivations).

CLINICAL SOCIETY OF LONDON.—Mr. Bruce Clarke: A case of Excision of the Cæcum in which the Two Ends of the Divided Bowel were successfully United by a Continuous Silk Suture.—Mr. R. Nairn: A case of Intestinal Obstruction due to Impaction of a Gall-stone in the Jejunum.—Dr. Alexander Morison: A case of Pulmonary Abscess Discharging through the Right Lung and communicating with the Posterior Mediastinum.—Dr. Newton Pitt: A case of Pseudo-bulbar Paralysis probably due to a Lesion in each Cerebral Hemisphere.

### Saturday, May 13.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.

LONDON POST-GRADUATE COURSE.—Bethlem Hospital: 11 A.M., Dr. H. Corner: Melancholia.

# Notes, Short Comments & Answers to Correspondents.

## EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

*It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.*

*Lectures, original articles, and reports should be written on one side only of the paper.*

*Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.*

*We cannot prescribe or recommend practitioners.*

*Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."*

*Letters relating to the publication, sale and advertising departments of* THE LANCET *should be addressed "To the Publisher."*

*We cannot undertake to return MSS. not used.*

## PUBLISHER'S NOTICE.

IN order to facilitate the work of reference to the volumes of THE LANCET, we have arranged in the future to publish duplicate copies of the Index to each half-yearly volume in a form in which they may be subsequently filed or bound together.

We have had a large number of duplicate copies of the Index to the last half-yearly volume printed, and those of our subscribers who may wish to be supplied with loose copies can obtain the same (without extra charge) on making application to the Publisher of THE LANCET.

### AN INSULT TO THE PROFESSION.

THE following letter has been forwarded to us by a member of the profession, who is justly indignant at its receipt:—

"——— ———, May 1st, 1893.

"SIR,—I am at present engaged in organising an institute for the supply of nurses for medical, monthly surgical and all other classes of cases. In order to gain the patronage of medical gentlemen I venture to offer them 20 per cent. of all gross cash proceeds that come to me through their recommendation. Allow me, Sir, to express the hope that you will do your best to enable me to secure the success of my venture. I shall be happy to wait upon you at your convenience to give you any information you may require as to my arrangements.

"I am, Sir, yours faithfully,

"———."

*C. G. J.*—The subject referred to and other cognate matters are discussed in "A Treatise on Hygiene," published by Messrs. Churchill, New Burlington-street.

### "MEDICAL OFFICERS OF HEALTH AS DIAGNOSTICIANS."

*To the Editors of* THE LANCET.

SIRS,—Your correspondent "M.O.H.," whose letter appeared in THE LANCET of April 22nd, has surely mistaken his position. He had no right to personally visit the patient he mentions. It is not our business to see other practitioners' patients or to correct their diagnosis if it needs correction. We are either to call at or send the sanitary

inspector to the house to ascertain that all proper precautions are being taken to prevent the disease being spread; but we cannot, or ought not to, attempt to go behind the certificate of a registered practitioner. We must accept that as a fact. That at any rate is my view of our position and the one I always act on. It is true that practice does sometimes reveal apparently curious ideas of diagnosis, but with this we have nothing to do. The responsibility is not ours; it rests with the practitioner signing the certificate. If from what I consider sufficient cause I have reason to doubt the correctness of the diagnosis in any case, I add a note to that effect with the entry of the case, giving the reason or reasons why I do so.

I am, Sirs, yours truly,

April 29th, 1893. ANOTHER M.O.H.

*To the Editors of* THE LANCET.

SIRS,—I have read the correspondence on the above with very great interest. My experience so exactly agrees with that of "M.O.H" that I feel constrained to ask you to allow me to support his statement of our difficulties as medical officers of health. I went so far, on one occasion, as to report to my authority that I had visited a case in which I could not confirm the diagnosis (of course after communication with the notifying practitioner), and after some discussion I was informed that *my* view of the case would, in all such cases as these, be the one accepted by the authority as final. This certainly places the medical officer of health in a very awkward position; and as the subject is one of great import I should be glad if you would give us an editorial opinion as to the position we should take up in this matter. The local sanitary authorities naturally look to their medical officers of health for full guidance on these points and, as a rule, are unskilled in the refinements of medical etiquette.

I am, Sirs, yours &c.,

April 25th, 1893. AN URBAN M.O.H.

*** The medical officer of health is not responsible for the diagnosis of the certifying medical practitioner and should accept his certificate unless he has substantial reason for suspecting *mala fides*; but he might in inquiring into the cause of an outbreak of disease have to exercise his own judgment and be guided by his own opinion as to the nature of the malady. However, this is a duty altogether different from that which devolves upon him as the recipient of certificates under the Notification of Infectious Diseases Act.—ED. L.

## DENHOLM TESTIMONIAL FUND.

*To the Editors of* THE LANCET.

SIRS,—We venture to ask your permission for the insertion of this letter with the enclosed list of contributions already received for the Denholm Testimonial Fund. This fund, to which we have been asked to act as hon. secretaries, is now being raised for the purpose of presenting a testimonial to Dr. Denholm, partly by way of compensation for the pecuniary loss which he suffered in connexion with the action Denholm *v.* Tait, but even more as an expression of sympathy from his brethren in the profession for the anxiety and worry which were inseparable from the case. Further contributions will be received by either of us, or may be paid directly to the Thetford branch (or any other branches) of Messrs. Gurney's bank. Cheques or postal orders should be made payable to the "Denholm Testimonial Fund" and crossed "Messrs. Gurney."

We remain, Sirs, yours obediently,

C. M. FEGEN, Brandon, Suffolk.

April 29th, 1893. ALEX. G. R. FOULERTON, 122, Brompton-rd., S.W.

| | | | | | | | |
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### THE MEDICAL PROFESSION IN FRANCE.

IT is said that an increasing number of medical men continue to apply to the Association of Doctors in Paris, and the explanation given is that Paris attracts more medical men than it can employ. Of 12,324 practitioners in 1891 in France 2419 lived in the Department of the Seine. How much worse must be our position in England! France has rather more than 38,000,000 of population to be served by only 12,324 medical men, or one medical man to each 3000 inhabitants. We have for rather less than 38,000,000 inhabitants 39,590 medical men, or one medical man to each 950 inhabitants.

*Messrs. Burroughs and Wellcome* have forwarded to us a very handy physician's appointment calendar. A copy will be sent by them to any practitioner on application.

*House Surgeon* has not enclosed his card.

### THE SUFFICIENCY OF THE APOTHECARIES' LICENCE.

IT is said in the *Leeds Mercury* that the authorities of the Gainsborough Dispensary have refused to recognise medical men who hold only the licence of the Apothecaries' Society and that in consequence of this attitude the Society will take steps to test the questions so raised. In doing so the Apothecaries' Society will be only doing its duty to its licentiates and will have the sympathy of the profession. We are speaking, of course, of the licence granted under the conditions imposed by the Act of 1886. This licence is as complete a legal qualification in medicine, surgery and midwifery as any diploma granted by any body or conjunction of bodies in Schedule A of the Medical Act of 1858; and not only so, but it is granted after a due and fair examination in all branches. The apothecaries owe one other debt to their licentiates, and that is to procure by legislation a title more expressive of their complete legal qualification.

## "HYPODERMIC TABLOIDS."

*To the Editors of* THE LANCET.

SIRS,—In a former issue of THE LANCET I drew your attention to a new mode of using hypodermic tabloids by placing a disc under the tongue. I now send you a brief report to illustrate the wide application of this system, as it saves much labour and time.

A man aged sixty-three suffered from most severe neuralgic pains due to a cancer in the parotid region. A quarter-grain morphia disc placed under the tongue gave him relief in ten minutes and he always begged to have one by him.—A married woman aged twenty-seven had anæmia for years, with neuralgia. She became pregnant and suffered from obstinate vomiting; the stomach would retain nothing. A half-grain morphia disc gave relief at once, and the patient went to her full time.—Another married woman aged thirty-three suffered from repeated attacks of gall-stones and found relief in a few minutes from a quarter-grain morphia disc.—A third married woman aged forty-two had a gastric ulcer, with severe pain and vomiting, and when seen was suffering from extreme collapse. I gave a quarter-grain morphia disc and on my return visit in a quarter of an hour found her comfortable.

Some of the above cases were miles away from my surgery, and in such instances it is a great boon conferred to be able to leave a measured dose.

I am, Sirs, yours faithfully,

Loughborough, April 25th, 1893. W. PAULSON.

## UNQUALIFIED PRACTICE.

*To the Editors of* THE LANCET.

SIRS,—The enclosed cutting from a Singapore paper shows how much better the Dutch manage these things in an out-of-the-way part of the world, as in Java. It refers to a travelling "Sequah" from England. A guilder, I may remind your readers, is about 2*s.*

I am, Sirs, your obedient servant,

H.M.S. *Pallas*, China Station, April 4th, 1893. A. G. P. GIPPS.

"W. G. Barnfield, or 'Sequah,' described as by calling a street-orator and medicine seller, was recently sentenced by the criminal court at Samarang to a fine of ten guilders for unlawful practice of the apothecary's art there, upon which he appealed to the High Court. That tribunal, we learn from the *Straits Times*, has raised the fine to 200 guilders."

### THE DENTAL PROFESSION IN SPAIN.

A MEETING of dentists, says the *British Journal of Dental Science*, was recently held in Madrid for the purpose of taking steps to represent to the Spanish Minister of Education the necessity of reform in dental education. Resolutions were passed that dental students should be educated in the medical faculties of universities and that dentists should be accorded by law academic rank and all the rights and privileges which the dental profession, by reason of its importance, may justly claim. It is also suggested that the illegal practice of dentistry should be prevented—"a point," it is added, "at present much neglected by the proper authorities."

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

**During the week marked copies of the following newspapers have been received:**—*Blyth Examiner, Northern Reporter, Toronto Mail, New York Herald, Coventry Herald, Hertfordshire Mercury, Reading Mercury, Builder, Liverpool Courier, Essex County Standard, Gloucestershire Echo, Denbighshire Free Press, Durham Chronicle, The Morning, Leicester Post, Weekly Inter-ocean, Family Doctor, Isle of Man Times, Loughborough Herald, Cape Argus, Scottish Leader, Bath Gazette, Wolverhampton Chronicle, Cumberland Advertiser, Scotsman, Leeds Mercury, Weekly Free Press, Aberdeen Herald, Mining Journal, Bristol Mercury, Sunday Times, Architect, Yorkshire Post, Liverpool Daily Post, Surrey Advertiser, West Middlesex Advertiser, Local Government Chronicle, Grantham Journal, Guy's Hospital Gazette, West Middlesex Standard, Local Government Journal, Derbyshire Courier, Alloa Circular, Colonies of India, Temperance Record, Observer, Le Courrier de la Presse (Paris), Public Health, Surrey Mirror, Huddersfield Chronicle, Times of India, Pioneer Mail, City Press, Le Temps (Paris), Sanitary Record, Citizen.*

## Communications, Letters &c. have been received from—

A.—Dr. F. P. Atkinson, Sarbiton; Messrs. Allen and Hanburys, London; Aberdeen University, Secretary of.

B.—Dr. A. O. Bobardt, Ashmansworth; Dr. F. Beach, Sidcup; Dr. Boxall, London; Mr. C. A. Ballance, London; Mr. W. H. Bull, Stony Stratford; Mr. C. Birchall, Liverpool; Messrs. Burroughs Bros., London; *Birmingham Daily Post*, Publisher of; Bladud, London.

C.—Dr. Frank Clemow, London; Dr. W. Clarke, London; Mr. John Cowan, Crown Agent, Scotland; Signor C. Clausen, Palermo; Messrs. Crossley, Moir and Co., London; Messrs. Carnrick and Co., London; Messrs. Cassell and Co., London.

D.—Dr. A. T. Davies, London; Mr. C. W. Dean, Lancaster; M. De Bona, Paris; Derby Royal Infirmary, Secretary of.

E.—Mr. G. M. Edwards, London.

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G.—Dr. A. L. Griffith, London; Dr. F. W. Gunn, Northumberland; Dr. A. H. Griffith, Manchester; Mr. W. G. Groves, Woodford; Messrs. Griffin and Co., London; General Life and Fire Assurance Co., London, Secretary of; G. G., London.

H.—Dr. B. Howard, London; Dr. George Herschell, London; Dr. T. W. Hime, Bradford; Mr. G. Hassall Huntly, Leatherhead; Dr. W. S. Headley, Brighton; Mr. R. P. Hardy, London; Mr. J. Heywood, Manchester; Mr. J. J. Harding, Ballincollig; Mr. J. C. Humphreys; Mr. Harrison, Bath; H. F. S.; Hanover Institute for Nurses, London, Lady Superintendent of; Hartlepool Infirmary, Secretary of; Hyderabad.

I.—International News Co., London.

J.—Dr. C. Joynt, Dublin; Mr. R. G. Jack, London; Jessop Hospital for Women, Sheffield, Secretary of; Junius, London

K.—Mr. R. C. B. Kerin, London.

L.—Dr. Ridorfo Livi, London; Dr. C. Lang, München; Dr. G. Leslie, Aberdeen; Mr. J. Ernest Lane, London; Mr. Henry Lee, London; Mr. E. Muirhead Little, London; Mr. H. K. Lewis, London; Messrs. Lee and Martin, Birmingham; Liquor Carnis Co., London.

M.—Dr. D. Macalister, Cambridge; Dr. Edward Malins, Birmingham; Dr. Herbert Masson, Somerset; Dr. McNaught, Waterfoot; Dr. Mac, London; Dr. A. Marsden, London; Mr. J. Mathias, Blaenavon; Mr. W. J. Magrath, Warrington; Mr. J. Macready, London; Manchester Hospital for Consumption, Secretary of; Middlesex Hospital, Secretary of; M. D., London; Medicus, London.

N.—Dr. F. J. Newton, India; Newcastle-on-Tyne Corporation, City Treasurer of.

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P.—Surgeon-Major Thomas Heazle Parke, Netley; Mr. A. L. Piddian, New York; Mr. N. Y. Pentland, Edinburgh.

R.—Dr. W. Robertson, Newcastle; Dr. B. W. Richardson, London; Mr. Arthur Reade, London.

S.—Dr. Charles Steele, Clifton; Dr. Smith, Chesham; Dr. Scanes Spicer, London; Dr. C. Salvatore, Padora; Mr. A. Marmaduke Sheild, London; Mr. A. Forbes Sievelling, London; Mr. Clement H. Sers, London; Mr. E. Southon, Bath; Mr. Henry Sewill, London; Mr. F. O. Stoker, Witley; Messrs. Smith and Son, Birmingham; Messrs. Street and Co., London; Messrs. Steel and Jones, London; Sedburgh Union, Clerk of; Surgeon, Robertsbridge; Sanitary Wood Wool Co., London.

T.—Dr. Herbert Tibbitts, London; Dr. H. H. Tooth, London; Mr. Frederick Treves, London.

W.—Mr. W. H. Williams, Sherborne; Mr. Ward, Leicester; Messrs. W. Wood and Co., New York; Messrs. Whitworth and Stuart, Manchester; Worcester General Infirmary, Secretary of.

## Letters, each with enclosure, are also acknowledged from—

A.—Amethyst, London; A. J. T., Norwich; A. M., Weston-super-Mare; A. B., London; 82, Alvey-street, Walworth.

B.—Mr. W. Brownilow, Tiverton-on-Avon; Mr. J. Beattie, Darlington; Mr. J. Beckton, London; Mr. H. G. Brown, Streatham; Bristol Dispensary, Secretary of.

C.—Mr. R. H. Collins, Tow Law; Country, London; Cheltenham General Hospital, Secretary of.

D.—Mr. C. Dunderdale, Manchester.

E.—Dr. D. G. Evans, Llanerchymedd; Mr. Everett, Bath.

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I.—Immediate, London.

J.—Dr. Johnston, Lincoln; Nurse Jeanie, Broadstairs; J. P. S., London; J., London.

K.—Mr. G. T. Kingston, Bandon, Ireland; Mr. K. Knott, Hastings; Mr. T. S. Keys, Gorseinon.

L.—Messrs. Lee and Nightingale, Liverpool; Lex, London; Locum, Wood-green.

M.—Dr. S. Moritz, Manchester; Mr. M. L. Margrave, Newton Abbot; Mr. A. Maylott, Uxbridge; Messrs. Montgomery and Plumbe, Maidenhead; Medicus, London; M.D., London; M.D., Liverpool; M.R.C.P., London; M.D., Brighton; Mexon, London.

N.—Mr. W. R. Nicholson, York; Mr. J. W. Norman, Teignmouth; Nucleus, London; N.W., London; Number, London.

O.—Dr. O. T. Owen, Blackburn; Opii, London.

P.—Mr. R. W. Pendleton, Brighton; Ph.B., London; Pestle, London.

R.—Mr. L. Rawsthorn, Preston; Mr. J. Rogerson, Glasgow; Mr. G. H. Russell, London; Mr. T. Richards, Maesteg; Mr. W. Robinson, Shap; R. L. T., London; Richmond Union, Clerk to.

S.—Dr. J. Smith, Dumfries; Mr. W. Sheen, Lutterworth; Mr. F. Stur, Birmingham; S. B., Woodford; S. R. P., London; Surgeon-Captain, London; Statim, Dundee; Surgeon, London; Scalpel, London; S. X., London.

T.—Mr. Thrower, London; Mr. R. Trimble, West Bromwich; Mr. E. Thomas, Bottwnog; Mr. J. Thin, Edinburgh.

U.—Urbanus, London;

V.—Veni, London; V. B., London; Victoria, London.

W.—Dr. R. A. Williams, Ogmore Vale; Mr. E. J. Willis, Leatherhead; Mr. H. West, La Bocque, Jersey; Mr. R. H. Ways, Keynsham; Mr. T. W. Waters, Newcastle-on-Tyne; Messrs. Watkins and Osmond, London; Messrs. Williamson and Marshall, Newcastle-on-Tyne; Messrs. H. Wilson and Co., London.

Y.—Yorkshire, London.


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An original and novel feature of "THE LANCET General Advertiser" is a special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice, but is in itself an *additional* advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.

Terms for Serial Insertions may be obtained of the Publisher, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 66, Rue Caumartin, Paris.

# REPORT OF THE LANCET COMMISSION

*APPOINTED TO INVESTIGATE THE SUBJECT OF THE*

# ADMINISTRATION OF CHLOROFORM

*AND OTHER ANÆSTHETICS*

FROM A CLINICAL STANDPOINT.

## DEATHS REMOTELY DUE TO THE ANÆSTHETIC.

THE following cases form a continuation of the deaths which are stated to have been remotely due to the Anæsthetic:—

8.—Male. To facilitate reduction of hernia of long standing. Respiration failed first. From the time of operation there was oppression in breathing, præcordial trouble, vomiting, and diarrhœa. On 4th day after operation, respiration was 40 per minute, and pulse small and rapid (130 per minute). In spite of treatment, patient became worse, and died on 17th day. Cause assigned for death—asphyxia. Post-mortem—no local cause for death. The auscultation revealed some crepitant râles toward the apex of the lungs, otherwise the sounds heard were normal.

9.—Dilatation of anal fissure. Respiration failed first. The anæsthetisation showed nothing uncommon; ½ hour after the patient said he felt comfortable, but respiration became uneasy, hissing and sonorous râles were heard on auscultation of both lungs; no dulness on percussion. Up to 7th day the symptoms grew worse, respiration 54 per minute, pulse 140. The crepitant râles were mixed with sonorous râles. On 8th day there was a sort of lull, this was at once succeeded by diphtheria, which rapidly extended over the buccal and pharyngeal mucous membrane. The patient died, suffocated 10 days after the operation. Asphyxia. Very fat, strong and full blooded.

10.—Female, aged 41. Craniotomy in a case of contracted pelvis; 8 hours. Respiration failed first. Operation performed and patient delivered with the greatest difficulty. Was under chloroform 8 hours. Reacted fairly and felt well but feeble; 36 hours later developed intense dyspnœa. Was cyanosed and found suffering from general pulmonary hyperæmia. All larger and smaller bronchi full of mucus, which was expectorated with great difficulty. Patient died 8 hours later. Dyspnœa caused probably by decomposition of chloroform.

11.—Male. For compound fracture of thigh. "Small quantity" of chloroform given. Patient died suddenly during anæsthesia. No food or mucus found in mouth; tongue had been drawn well forward. Artificial respiration and electricity employed when first dangerous symptoms appeared. The patient died from asphyxia. At the post-mortem, a piece of chewed tobacco found in the larynx completely obstructing glottis. Chloroform pure.

12.—Male. For fracture of neck of femur; 3 dr. of chloroform used on Esmarch's mask. Pulse and respiration failed together. Patient suddenly ceased to breathe, and directly after the heart failed. Every means resorted to to resuscitate the patient; artificial respiration for 1½ hours, tracheotomy, electricity, strychnine injections without avail. The cause assigned for death was fatty embolism, as shown by post-mortem, which showed vessels of lungs, especially capillaries, full of minute particles of fluid fat. Patient of strong healthy constitution, but intemperate.

13.—Removal of sequestra of bone from region of shoulder. Operation lasted 1 hour: no incidents of note occurred; patient without doubt recovered from anæsthesia. Was put to bed; died suddenly ¼ hour afterwards. Post-mortem. No lesions capable of accounting for the fatal termination. The recorder of this case, of which no explanation could be given, proposed to style it "death following chloroform," but not "death by chloroform."

## "UNTOWARD" CASES OF CHLOROFORM ADMINISTRATION.

WE have now to submit probably the most important part of our Report—those reported cases of chloroform inhalation in which more or less grave symptoms occurred, but which eventually disappeared on resuscitative measures being adopted. It seems more likely that lessons of material importance will be learnt from the study of such cases than from that of fatalities; for in the latter instance facts are often overlooked in the stress of the moment, while in the former there is usually less haste, more precaution, and a more orderly carrying out of such manœuvres as the character of the symptoms suggests. We are likely to learn from these cases somewhat of the nature of chloroform toxæmia, the procession of its symptoms, and the result of measures adopted for remedying its dangers. We are able to present a comparatively large number of instances of untoward cases—245—although these cases in which dangerous symptoms arise during Chloroform Narcosis are seldom published, the heading "Fatality under Chloroform" being unfortunately far more common. We would note an important exception to this omission, unfortunately not coming within the limits of our Report—namely, the account of an untoward case reported in a clear and able manner by Surgeon Lieutenant-Colonel Lawrie in THE LANCET of October 1, 1892.

### CLASSIFICATION OF CASES.

Of the 245 cases reported, 101 are stated to have occurred in hospital; 90 in private practice; and in several of the reports sent to THE LANCET in response to the Special Inquiry forms numerous cases are grouped together without any particular number being specified. It does not appear that age or sex influence materially the liability to the production of dangerous symptoms; the sexes being affected in the same way as was mentioned at the commencement of this Report. A similar coincidence between fatal and untoward cases occurs with regard to age (p. 630). We have received reports of untoward cases from quite as large, or probably from even a larger, an area of geographical distribution, as in the case of fatal cases (p. 630).

### METHODS OF ADMINISTRATION.

Untoward symptoms appear to have occurred both when chloroform was administered according to the open method, and when an inhaler was employed. The variety of inhalers used seemed to point to the conclusion that none were absolutely to be relied upon as a certain preventive to grave symptoms of toxæmia.

In only a very few instances do we find any particulars noted of conditions which might be held as predisposing to the production of untoward symptoms under chloroform. Thus, intemperance, epilepsy, cancer, although noticed as having been present two or three times, may practically be regarded as having been omitted from the consideration of those who reported the cases. In one instance an individual is mentioned as having on two separate occasions given evidence of chloroform toxæmia from which recovery took place. The occurrence of complications during the operation, such as vomiting or profuse hæmorrhage, do not appear to have been responsible, save in a very few cases, for the onset of grave symptoms.

The immediate symptoms of danger in these cases are practically in every case respiratory or circulatory. We are told that in a very

large proportion of cases the respiration failed before the heart or pulse showed signs of flagging, and it will be seen that the measures adopted in resuscitation were in most cases those which are applicable to cases rather of cessation of respiration than to those of cardiac failure.

### THE MEASURES ADOPTED FOR RESUSCITATION.

The measures adopted for resuscitation consist in the admission of air by throwing open windows and doors. In one case the patient was held by his legs outside a window.

Artificial respiration is mentioned as having been employed in more than half of the untoward cases, and to have been successful in the majority of the instances when resort was had to it. The following plans of conducting artificial respiration are mentioned:—Mouth-to-mouth insufflation with or without compression of abdomen or thorax; lateral compression of thorax. The other methods mentioned were: Howard's, Marshall Hall's, Silvester's, the performance of laryngotomy with or without tube, or tracheotomy, and artificial respiration. Various other adjuvant measures were tried during the artificial respiration. The use of both faradism and galvanism is mentioned as successfully employed in a few cases. The object in most of the instances was to excite the diaphragm to contraction either by direct stimulation or through the phrenic nerves. The substitution of ether given by inhalation was successfully adopted in a few cases. Nélaton's method was frequently employed in the later cases, and a considerable success is claimed for this plan. No mention is made of any dangerous symptoms having followed its employment. It appears to have been resorted to mainly in cases when more or less enfeeblement of the circulation occurred, and when this was associated with failure of respiration inversion was practised, together with the performance of artificial respiration by compression of the abdomen and thorax. In one case we are told that, besides inversion, the patient's trunk was swung laterally so as to resemble the oscillations of a pendulum, although what was the particular merit of this movement does not appear to be very clear.

Mechanical stimulation of the larynx by pressing a finger down to the glottis was stated to have been successful in one case. This procedure is interesting in connection with the views of certain authorities, that mechanical traction upon the tongue, or grasping the epiglottis and dragging it forward, either by means of a thread introduced into it or by means of fine vulsellum forceps, will successfully initiate natural breathing even after some seconds' cessation of respiration. Very various forms of stimulation are credited with success in the treatment of the dangers of chloroform toxæmia: the mechanical mode of applying cold or heat to the thorax or præcordium by simple application, or by being dropped upon the body from a height. In one case the water is described as having been "nearly scalding"; in others the feet were immersed in "almost scalding water." Slapping with a wet towel and friction to præcordium, chest wall, spine, with or without stimulating applications like turpentine; tickling the soles of the feet. Massage of rib-muscles and twisting of the arm are also mentioned. Hypodermic injections of ether or brandy are reported in some cases. Internally the usual stimulants (sal volatile, brandy, and so on) have been given by the mouth; nitrite of amyl inhalations, rectal injections of hot coffee, brandy, hot water, are all mentioned. Valerian is stated to have been given with success in cases in which, although the respiration was restored, it yet remained feeble. Venesection was practised in one case.

### KIND OF OPERATION.

The nature of the operations in progress when untoward symptoms arose cannot be of slight importance, as it will be seen by a study of the cases that in not a few "shock" is assigned as the cause of the untoward symptoms.

The following list comprises the operations named: Operations on the abdomen. For the relief of large strangulated hernia: for ruptured gall-bladder. Amputation of the thigh. Operations on bone, breast (serious), chest (empyema, pneumotomy), reduction of dislocations; reduction of fractures; amputation of penis; operations on the eyes; catheterisation; circumcision; cystotomy; lithotomy; phimosis; elephantiasis of scrotum; sounding of bladder; dilatation of the cervix; uterine polypectomy; removal of uterine fibroid.

Serious cases of operations on or about the jaws; incision of joints for pyoarthron; ligature of the external iliac artery; forcible movement of joints; removal of nævus; removal of glands on neck; operation on nerves; obstetric case; operation for hæmorrhoids, for fistula; stretching of sphincter ani; extraction of teeth; removal of tongue; tracheotomy; and removal of tumours. In many cases the operation had not been commenced when the disquieting symptoms appeared.

We now pass to the abstracts of the actual cases which, although individually short, yet in the aggregate afford much food for reflection.

### *Series A.*—1848–1864.

1.—Male, young. Amputation of thigh. Pulse and respiration failed together. Pulse and respiration suddenly stopped, countenance altered, and jaw dropped. Marshall Hall's "ready method" of artificial respiration was persevered with for half an hour before there was any evidence of return of life; but at end of 45 minutes the patient spoke. In this case the chloroform was said to be "very impure."

2.—Male. To examine the bladder and prostate gland. Pulse failed first. In 3 or 4 minutes the breathing was much accelerated, and the chloroform was discontinued. The pulse ceased, and subsequently the respiration. The heart sounds could not be heard. The Marshall Hall's "ready method" of artificial respiration in two minutes caused signs of returning animation.

3.—Female, aged 45. Removal of tumour from breast. Pulse failed first. More chloroform was being given to prevent returning sensibility; when the pulse became weaker and ceased; bleeding from the wound stopped, and respiration was suspended, the heart's action very imperfect. The face became livid, then colourless, and the pupils dilated. Artificial respiration (*bouche à bouche*); in 3 minutes radial pulsation was felt to return, and in 6 or 7 minutes complete recovery had taken place. Full anæsthesia had been obtained, and the operation was nearly completed when untoward symptoms set in.

4.—Female, aged 18. To relieve neuralgia of eyeball. Chloroform by Snow's inhaler. Respiration failed first. In 1 to 1½ minutes from the commencement of inhalation the patient moaned, and respiration ceased; pulse continued steady; shaking and cold affusion instantly employed. Pulse commenced to fail. Artificial respiration by compression of thorax was practised, then the Marshall Hall's "ready method," which induced inspiratory efforts; but it had to be persevered with for 3 hours. The reporter of the case regarded it as an instance of "secondary apnœa," due to a prolonged administration of chloroform 10 hours before. The patient had frequently taken chloroform for the same affection, even 2 or 3 times a day.

5.—Female, aged 6. Excision of knee-joint. Pulse and respiration probably failed together. Insensibility passing away, more chloroform was given. Pulse became feeble, and in a minute ceased to beat; the respiration also stopped. The tongue was drawn forward, and artificial respiration by compression of the thorax was tried, but for 15 minutes no pulse or positive sign of life was evident. An enema with brandy given. The pulse then became perceptible, but very faint and flickering; in 10 minutes it improved a little, and then gasping took place. Ammonia applied to the nostrils caused a scream and a sudden inspiration. Artificial respiration was kept up for more than ½ hour. Anæsthesia had been complete. Had taken chloroform to insensibility three times before.

6.—Male, aged 4. Removal of tumour from eyelid. 1 drachm of chloroform given on a sponge. Pulse failed first. In less than 2 minutes the pulse became feeble; inspiration short, tracheal rattling; face livid, limbs relaxed. Cold affusion and ammonia to nostrils were applied; mucus wiped from epiglottis with a sponge; friction applied to thorax. These tried for 2 or 3 minutes, when pulse ceased; pupils dilated; jaw dropped. Compressions of abdomen used for 3 minutes, when one conductor of Du Bois Reymond's induction apparatus was placed on the course of the phrenic nerve, the other on the seventh intercostal space, and alternated from side to side. This produced a sob, and on discontinuing the process there was a spontaneous inspiration; the pulse also returned. Compression of abdomen was again resorted to, and continued for about 20 minutes, when recovery was complete. Any cessation of the compressions caused enfeebled pulse and respiratory efforts. Operation not commenced.

7.—Female, aged 50. Removal of breast for cancerous disease. Chloroform given in an inhaler. Insensibility not complete. Operation not commenced. Pulse and respiration failed together. In 5 minutes the conjunctiva was still sensitive, and pupil contracted; slight cough occasionally. A profuse perspiration broke out, the pulse failed, and, with the respiration, ceased. The pupils were "contracted to a pin's point"; face pale, lifeless. Cold affusion and compression of chest resorted to, when in about a minute the respiration could be felt fluttering, and soon began to improve. A gasp was given and

pulse rose at once, becoming regular, but weak. The operation was then performed, followed by faintness and vomiting.

8.—Male, aged 54. To pass a catheter in case of stricture. Pulse and respiration failed together. The respiration became rapid, the eyes suddenly assumed a "corpse-like appearance." Pulse and respiration ceased. The tongue was drawn forward. Artificial respiration by compression of the thorax and cold water affusion induced several vigorous inspirations and the pulse returned. The alarming symptoms lasted for three minutes. The patient was nearly under influence of chloroform, but the operation was not commenced at the time of the onset of the bad symptoms.

9.—Male, young. To sound for calculus in bladder. Pulse and respiration probably failed together. Did not take chloroform readily. He breathed with stertor for a few seconds, and then respiration ceased. Tongue was pulled forward by means of a hook, and air was heard to rush into the now-open glottis. Compressions of the abdomen resorted to and heart's action recovered. He was not fully under the influence of chloroform when untoward symptoms supervened.

10.—Female, aged 9. Removal of necrosed bone from femur. Pulse and respiration apparently failed together. In 35 minutes the face grew pale; pulse was small, feeble, and fluttering; respiration slow and indistinct; the surface of body cold, with relaxation of the sphincters. She was fully under influence of chloroform, and the operation had been commenced. The means of resuscitation adopted were: Exposure to cold current of air, warmth by heated flannels, administration of brandy and diluted liquor ammonia. She gradually but slowly recovered.

11.—Male, aged 64. Excision of a cancerous tumour from the axilla. Duration 10 minutes. Complete anæsthesia. Operation commenced. Pulse and respiration failed together. Had inhaled for 10 minutes, when respiration grew stertorous, face congested, pupils rather dilated, pulse labouring and slow. These symptoms became more marked, and respiration seemed on the point of ceasing. Means of resuscitation: exposed to a current of air, and cold affusion employed. Gradually the danger passed away, but he continued quite insensible until operation was completed.

12.—Female, child. To examine a diseased elbow-joint. 2 drachms of chloroform given from an inhaler. Pulse and respiration failed together. After being insensible for about 5 minutes pulse became quick, then slow, and afterwards imperceptible; the respiration also ceased. Anæsthesia was complete in 6 minutes. Tongue drawn forwards; compressions of thorax resorted to; face became intensely livid. In 2 or 3 minutes spontaneous inspiratory efforts. Recovered in about 10 minutes. Had taken chloroform previously two months before.

13.—Female, aged 30. To relieve neuralgia of face. 2 or 3 drachms of chloroform given on a napkin. Pulse and respiration failed together. Face changed to a pallid hue; eyes dull and glazed; jaw dropped, and respiration and pulse ceased. Heart sounds inaudible. Had been under influence 20 minutes. Exposed to current of cold air. Tongue drawn forward, and in doing so a set of artificial teeth were found loose in the fauces, and removed. Artificial respiration by compressing thorax. In 10 minutes there was a spontaneous effort at inspiration, and in 10 minutes more patient had quite recovered.

14.—Female, aged 45. Removal of mamma for scirrhus; 1 minute. Probably pulse failed first. She was in a sitting posture. After having inhaled for 1 minute, the chloroform maintained a "strong influence" from 2 P.M. to 4 A.M. 14 hours after operation she suffered from syncope, the pulse being very irregular. She eventually recovered. Operation completed.

15.—Male. Strangulated hernia. About 2 drs., in three doses, of chloroform given, on piece of lint in a handkerchief. Pulse and respiration failed together. About 40 minims were first given, with no effect beyond a slight spasm of the limbs, and a rise of rate of pulse from 70 to 90. Thirty drops were added, but he still remained conscious at the end of 3 or 4 minutes, when 40 minims were again added. In about ½ minute the spasm relaxed. Pupils dilated; pulse 80, steady, full; slight stertor, and the chloroform was removed. The respiration became noiseless, slight, and in 20 seconds altogether ceased. The pulse intermitting. Under influence of chloroform; operation not commenced. Cold water and wet towel produced no effect, and the pulse ceased. Mouth-to-mouth insufflation, with pressure on the chest, produced a slight respiratory effort, after about 20 inflations, and the pulse could be felt as a thread after 7 or 8. Vomiting occurred and respiration failed, but was restored by the same means, the pulse being weak, but steady. Soon vomiting again set in, and the breathing gave way, but was re-induced by artificial respiration as above. Consciousness returned after a short time. He remained very drowsy, but was not allowed to sleep, as when he dozed the respiration became diminished, and the pulse faltered. He gradually recovered.

16.—Female, aged 39. Removal of breast for scirrhus. About 3 dr., in 2-dr. and 1-dr. doses, of chloroform given from Snow's inhaler. Pulse and respiration failed together. After 5 minutes' inhalation she vomited some mucus, and the chloroform was temporarily discontinued, but at the end of 15 minutes from its commencement she was completely under its influence; with muscles relaxed, pulse 80 (it had risen to 144), breathing easy, with slight stertor, chloroform discontinued, and operation commenced. After 4 minutes, sensibility was returning, and inhaler applied with another drachm of chloroform; this soon produced its effect, and was again removed. The respiration now became more and more feeble, so as to be scarcely perceptible in 3 or 4 minutes, and pulse irregular. Perfect anæsthesia. The face became livid, and cold-water douche applied; the pulse and respiration improved slightly, but they shortly again failed, and there was an effort at vomiting. At this time (50 minutes from commencing to inhale) the face was livid, hardly any respiration, and the pulse scarcely to be felt; the tongue was not retracted. Cold douche applied, and ammonia to the nostrils. In about a minute galvanism was employed; a few applications caused a deep inspiration, and in a few minutes breathing was fully restored. Galvanism was continued for a short time, and consciousness returned. She had no relapse, and recovered without a bad symptom.

*Series B.*—1864–1891.

1.—Male. Reduction of dislocated femur. Chloroform given on handkerchief. Pulse and respiration failed together. In 5 minutes stertorous breathing set in; respiration became slow and laboured; pulse flagged, and skin became livid. Operation performed, but patient became almost asphyxiated. Measures for resuscitation adopted: slapping on chest and buttocks, cold water poured from a height on chest. In 3 or 4 minutes patient gave deep inspiration; air was expelled by gentle pressure of chest; this was repeated several times, and cold affusion continued, until in ½ hour recovery took place. Reduction of dislocation accomplished.

2.—Numerous cases. Resuscitation by vigorously slapping with flat hand naked surface of body and limbs, and by flapping face and front of chest with corner of wet towel; this produced deep inspiration, and action of heart was restored even when pulse had ceased. Continued till breathing, pulse, and colour were natural.

3.—Female, aged 23. Amputation for obscure disease of knee-joint (2 or 3 minutes). 6 dr. chloroform (on lint folded in funnel shape). Pulse and respiration failed together. Inhaled chloroform quietly. In 2 or 3 minutes was insensible, with slow, steady pulse, and natural respiration. Pulse became slower. When operation about to be commenced respiration ceased suddenly, and pulse could not be felt. Cold water thrown on face, artificial respiration practised, and air freely admitted into room. As last resource, trachea opened, and lungs inflated through wound. This failing, catheter introduced, and artificial respiration kept up through it. Patient spare, not emaciated. Pulse rather feeble, heart sounds normal. After recovering from chloroform, disease became worse. Chloroform again given successfully, and limb removed; but disease returned, and she died about 6 weeks later of hæmorrhage.

4.—Male, aged 58. Removal of tumour in right mastoid region. Chloroform 1 dr. 45 m. Respiration failed first. He had scarcely taken 1¾ dr. when face became red and respiration difficult; 2 minutes after cessation of respiration the pulse ceased also, the face became pale, lower jaw fell, and eyes remained open, with dilated pupils. The chloroform was immediately withdrawn. Cold-water frictions and ammonia applied, and respiration was sustained by pressing up the diaphragm. Pulse regular and not weak, but respiration became more laboured, and finally ceased. The mouth was opened with difficulty, and a silver tube passed into the larynx for the purpose of inflating the lungs, but only slight distension of thorax ensued, the air escaping at the side. As this did not do tracheotomy was performed, and a large tube introduced as far as the bifurcation of the trachea, and air was forced in and out. At the end of 6 or 8 such inspirations, the pulse returned gradually, respiration became re-established, and the wound began to bleed. In 1½ hours patient coughed up a quantity of bloody mucus from trachea. Strong coffee was introduced into stomach, and an enema of mush given. Cold douche to head, and blister to epigastrium. Patient slept well, and was all right next day.

5.—Male, aged 14. Removal of sequestrum from tibia. Pulse failed first. In the middle of the operation the patient began to struggle; this was followed by stertor, cessation of heart's action, and of respiration, the lips were blanched and the limbs flaccid. Artificial respiration (Silvester's method), smacking face and chest with wet towel. Faint gasping in 2 or 3 minutes; galvanism to nape of neck and epigastrium restored heart's action. Recovery. Brandy and water given. The patient was very timid.

6.—Female. Respiration failed first. Respiration ceased, and patient seemed almost dead. The heart continued to beat however. Forced respiration kept up for a time, and cold water dashed on chest and face.

7.—Male. Trivial. Fainted under use of chloroform. Resuscitated by simple measures.

8.—Male 32. Removal of bulbous nerve from stump of lower third of arm after amputation. Pulse (probably) failed first. When operation was begun patient turned pale, breathing ceased, and pulse also ceased. Cold water dashed on face and chest, without avail, artificial respiration by compressing chest laterally; lower jaw forced downwards and mouth kept open. Tongue held out of mouth by means of flat forceps. Respiration and pulse slowly returned, and in 3 or 4 minutes fully established. Operation proceeded with and completed.

9.—Male, aged 4. Amputation of arm. Small amount of chloroform used. Boy was weak and faint on admission, was given stimulants and opiate. Remained under influence of chloroform for considerable time, 10 minutes after apparent recovery became restless, jerking arms about, symptoms were put down to congestion of the brain from chloroform. Pulse slow, full bounding. Action of heart and lungs normal. Convulsions. Final recovery. The recovery from chloroform is stated to have been perfect before the onset of these symptoms.

10.—Female, aged 25. Removal of "fungus hæmatodes" from arm. Towards close of operation face became livid, breathing stertorous. In ½ minute, patient was apparently at point of death. Ammonia and brandy given, patient slowly recovered.

11.—Male. For elephantiasis scroti. Small quantity chloroform used. Pulse failed first. As he was "coming under" the chloroform, pulse suddenly failed, neither lividity of face nor failure of respiration occurred at first. "Usual restoratives." Apparently healthy man.

12.— —, aged 4. Removal of encysted tumour from eyelid. Chloroform on sponge and compress (4 grm.). Pulse and respiration together. Pulse became small almost immediately; inspiration laboured, face livid, respiration gradually ceasing; pulse totally ceased in 3 minutes. Artificial respiration; ammonia to nostrils; faradic current to phrenic nerve, and 7th intercostal space, compression of abdomen also being employed. Operation proceeded with and patient did very well. Recovered ultimately.

13.—Female. Amputation of breast. Pulse and respiration together. Respiration reduced to 5 or 6 per minute, radial pulse scarcely perceptible; these symptoms attributable to want of care on part of administrator, who wanted to witness operation. Restored by giving brandy.

14.—Male, aged 18. Removal of strumous cervical glands. Snow's Inhaler used. Pulse and respiration together. Struggling; heart's action and breathing ceased. Severe flagellation on every part of body for 10 minutes; mouth opened, tongue drawn forward. The patient was strumous.

15.—Female. Removal of polypus of uterus. Shortly after the administration of the chloroform, and before complete anæsthesia was induced, her pulse began to falter, her breathing was embarrassed, and her countenance livid. Ether was substituted for chloroform with the best results. Patient was very anæmic, and feeble from loss of blood. She had a damaged heart, and profuse sanious discharge from vagina.

16.—Female. Removal of scirrhus breast. Immediately the tumour was removed pulse and respiration were noticed to have ceased. Artificial respiration at first tried with no effect, and then the rotatory electrical apparatus was administered, one pole at nape of neck, and the other at epigastrium. Gradually respiration returned, and operation was completed, the patient being still under chloroform.

17.—Male, aged 54. For ligature of pile. 1½ oz. of chloroform. Pulse and respiration failed together. Operation begun, but as patient flinched more chloroform given. Respiration ceased, and no pulse could be felt at wrist. Measures adopted for resuscitation were placing on back; pulling forward tongue; artificial respiration (Silvester's method); cold douche; ammonia. These failing galvanic battery applied—one pole to cardiac region; other to nape of neck—for 2 minutes. Beat felt at wrist; breathed again, soon respiration and appearance natural. On examination after recovery, no disease of heart and lungs could be detected. Slight arcus senilis. "The action of the heart recovered by stimulus other than respiration."

18.—Male, aged 72. Reduction of dislocation of right humerus into axilla. 30 min. of chloroform on lint. Pulse and respiration failed together. After fourth inspiration, respiration ceased, pulse stopped, eyes became glazed, pupils dilated and insensible to light, iris could be altered in shape by pressure on eye-ball, there was also dropping of jaw. It was evident that anæsthetic vapour had produced temporary arrest in circulation through pulmonary capillaries, and the mixed air had failed to stimulate the filaments of the pneumo-gastric. Chloroform at once suspended; and resuscitation commenced, as follows: Left hand laid firmly across chest. Right hand crossed over left, and forcible pressure made; hands then suddenly removed, and chest allowed to expand by its own elasticity. These movements repeated three times in ½ minute with no effect. Liquor ammoniæ fortioris on sponge held close to nostrils during each interval of compression so that the ammoniacal vapour was inspired during each expansive movement of the chest. After 6 artificial respirations, patient gave a gasp, and after 12, a second and third gasp. In 3 minutes more pulse felt at wrist, and in 35 minutes complete restoration. Shoulder dislocation reduced while in lethargic stage. Was of healthy constitution.

19.—Male, aged 12. Amputation of right forefinger. 3 dr. of chloroform. Respiration failed first. Directly anæsthetic had been given, patient suddenly ceased breathing, face and upper extremities becoming livid; pupils dilated, eyes glazed, conjunctivæ suffused, and pulse at wrists and carotids absent. Same treatment as in above case adopted; after 10 minutes became conscious, and in 20 minutes breathing and circulation became quite normal. Healthy. Cause of untoward symptoms "no doubt first non-oxygenated blood passing through lungs, and then temporary arrest in pulmonic capillary circulation."

20.—Male, aged 8. Removal of large fibrous tumour from back of left thigh. About 1 dr. of chloroform used. For anæsthisation, patient was placed upon face, owing to situation of tumour. When operation was completed, he became pallid and cyanosed with cessation of respiration and pulse and heart's action. Same treatment as in two preceding cases resorted to, and in 15 minutes pulse and respiration returned. In another 5 minutes there was a relapse. Cold affusion and galvanism employed with no effect; ammonia then applied to nostrils, and chest compressed 8 times in minute; after 12 minutes patient began to breathe naturally and to recover consciousness. For several days very ill with wandering delirium, nausea, and vomiting, but ultimately made good recovery. Delicate, but presenting no evidence of internal disease. In this case, probably, too little atmospheric air mixed with chloroform, and from position of patient, jugular veins may have been accidentally compressed; hence, independently of quantity of vapour inspired, there was probable disturbance in cerebral circulation and temporary effusion (serous).

21.—Pulse said to have failed first. Patient's hands cold and wet, features pinched, muscles of face relaxed, lids half-open, and corneæ turned upwards. Tongue withdrawn and patient placed at inclined plane of 40 deg.; this restored pulse and breathing in 15 seconds. On restoring patient to horizontal position, bad symptoms returned, but change in position followed by relief.

22.—Male, aged 30. Removal of tumour from front of leg. Pulse and respiration failed together. Sudden lividity, changing to deepening purple; respiration and pulse ceasing. Artificial respiration (Silvester's method) and flipping with wet towel gradually restored animation.

23.—Removal of small tumour—incision of carbuncle. Sudden fainting, with pallor of face, open eyes, and very dilated pupils. Artificial respiration restored animation.

24–25.—No particulars given.

26–32.—Pulse and respiration failed together. Immediate action of faradisation current successful.

33–34.—Indications of imminent danger. Promptly turning over in semi-prone position, pulling out tongue, and dashing cold water on chest and face were the measures adopted for resuscitation.

35.—Male, aged 19. Re-amputation of leg above knee. Skinner's inhaler used. Respiration failed first. Profuse vomiting set in when chloroform was beginning to take effect. After re-application, and in middle of amputation, patient stopped breathing. Placing in semi-prone position; tongue pulled out with artery-forceps; artificial respiration (Silvester's method) commenced; windows thrown open; cold affusions. As patient remained pulseless and livid for 10 minutes, battery applied to neck and diaphragm continuously. This not succeeding, pole at neck alternately applied and withdrawn; gasping occurred, which changed to normal breathing. Returned to life in 20 minutes from first cessation of respiration.

36.—Female, aged 50. Removal of breast for cancer. Pulse and respiration were believed to have failed simultaneously. While securing arteries, circulation suddenly stopped. No pulse, no respiration; no colour, but ghastly white. Laying on floor, head lower than body. Lips became red; in time, respiration returned. Recovery. No artificial respiration, and tongue not drawn out.

37.—Female, young adult. Amputation of leg. When dressing leg, breathing suddenly ceased. Breathless, pulseless, and pallid. Pillow and block, on which patient's head was raised for operation, struck away; head fell with noise on table. Lips reddened, face blushed, patient breathed and recovered.

38.—Female, young adult. Extraction of tooth. Pallor followed with usual signs of death. Was laid down, head lowered; lips presently showed signs of life, was saved.

39.—Male, aged 56. Amputation of thigh. Circulation ceased whilst wound was being dressed. Head hung down over table, and patient soon recovered. Delicate, and worn by long suffering.

40.—Infant. Removal of nævus. Became alarmingly pale and apparently died. Artificial respiration and drawing out tongue tried, but much time lost. Child hung almost upside down, till lips grew red and recovery certain.[1]

41.—Reduction of compound fracture of fore-arm. Respiration failed first. Arrest of respiration took place. Twisting the arm, which instantly caused an effort of inspiration to be made.

42.—Male, aged 60. Lithotomy. Respiration failed first. At beginning of operation, patient's respiration ceased, but pulse was

[1] This and the four previous cases were related to show the superiority of inversion over artificial respiration (Brit. Med. Jour., pp. 93, 94).

still going. Patient turned on his face and artificial respiration (Marshall Hall's method practised). Natural respiration not restored till tongue seized and drawn forwards by artery forceps. On turning patient, and allowing body to fall forward, a distinct expiration was audible, and though not thoroughly roused till tongue was seized, this would have been unavailing had not the artificial respiration allowed the effects of chloroform to pass off.

43.—Male, aged 10. Removal of cyst in right scapular region. Pulse and respiration failed together. While operation going on, patient ceased to breathe and pulse could not be felt. Cold affusion failed to produce respiration, and patient was slightly livid, when he passed off into pallor. Window opened, and 1 or 2 artificial elevations of ribs produced, without any improvement. Larynx felt to be open. Poles of electro-magnetic battery applied to sides of neck, producing slight spasmodic movement of muscles of neck and upper part of chest. This was repeated, and slight respiration and heart's movements took place. Battery made use of as stimulant and general irritant. Warm fomentations applied to chest, and pulse became better; respiration became deeper, and child began to cry, when hurt, in ¾ hour.

44.—Female, aged 42. Removal of axillary glands. Pulse and respiration failed together. Respiratory movements ceased without previous stertor or other warning; face assumed death-like pallor with slight lividity, eyes staring and pupils widely dilated, and pulse immediately became imperceptible. This and the preceding are classed under "asphyxia" by the narrators. Tongue at once drawn out, which did not restore respiration. Poles of electro-magnetic battery applied to root of neck over phrenic nerve (cold effusions and compression failing meantime to restore respiration). At last, short gasp, then others deeper and regular; pulse became perceptible, colour returned to face, and pupils contracted.

45.—Male. For stone. Pulse failed first. Pulseless, deadly pale, and breathing stopped. Pulse ceased beating some time after chloroform discontinued. Galvanic battery. Both pulse and breathing returned.

46.—Male (elderly). Pulse failed first. Pulse stopped suddenly and patient seemed dead. Galvanic apparatus. Deep and rapid inspiration followed by strong noisy respiration. Patient then started into sitting posture. Circulation restored. Recovery.

47.—Female (elderly). Opening trachea for disease of larynx (½ hour). Pulse failed first. Pulse suddenly stopped. Galvanism, circulation and respiration restored.

48.—Boy. Pulse failed first. Pulse became imperceptible but did not stop entirely. Galvanism. Instant recovery.

49.—Girl. Amputation of leg. Pulse failed first, stopping suddenly Galvanism. Instant restoration. Patient was given ½ tumberful of brandy next day and leg taken off without her being aware of it,

50.—Boy. Pulse failed first. Cessation of pulse first symptom of alarm. Artificial restoration and brandy enemata restored animation in about 5 minutes.

51.—Female (elderly). Removal of breast for cancer. Pulse and respiration failed together. Suddenly ceased to breathe and became quite pulseless. Measures for resuscitation. Battery. Patient gasped and breathed again. Her state one of almost excessive and fatal faintness; use of battery very marked; operation hastily completed; patient did well. Very courageous and energetic. Died suddenly 3 or 4 years later, as supposed, from cancer of lung.

52.—Female, aged 40. For mammary tumour. Suddenly became faint and collapsed and appeared dying. Was quickly revived. Was so weak that operation was postponed to another day and done without chloroform. About 3 months later, when patient had become very florid and stout, she died suddenly of apoplexy. Had cancerous growths in cerebrum, cerebellum, liver, and lungs.

53.—Male, aged 74. Reduction of large strangulated scrotal hernia. Pulse failed first. Pulse ceased, and all respiratory movements ceased at same time. Fell into a state of death-like syncope. Battery applied to epigastrium and back of neck, and patient struggled into life and started to sit up. Operation performed without chloroform. Died 3 days later of sloughing of the scrotum and integuments around.

54.—Male, aged 10. Extraction of small bullet from ear. Became quickly insensible; operation commenced, but had to be stopped as patient was restless and vomited. Respiration then stopped and he became blue and moribund. Turning over; tearing open clothes and smacking with wet towel; dripping with cold water over chest. At length gave a gasp, then another; began to breathe and gradually came to life. Food had been given to patient shortly before operation.

55.—Female (young). Excision of knee. Apparent death occurred; pallor, absence of pulse. Artificial respiration for 10 minutes before animation restored. Irritation of surface and brandy enemata also employed.

56.—Apparent death occurred; pallor; absence of pulse.

57.—Male, aged 35. Removal of two internal hæmorrhoidal tumours. Chloroform given on lint. Pulse and respiration failed together. After operation patient talked and laughed. This ceased and suddenly pulse and breathing stopped. Slapping face and chest; a slight movement seemed to follow, but deathly pallor increased. Silvester's method practised without success, till a finger thrust down throat on top of glottis. Then patient slightly quivered, and by persistence in artificial respiration with redoubled efforts, he recovered. Patient was quite blanched from bleeding through rectum, caused by the two internal hæmorrhoidal tumours.

58.—Male, aged 20. On hæmorrhoids (5 minutes). Pulse and respiration probably failed together. Operation finished, when at once respiration ceased, features becoming lividly blue, eyeballs turning upwards; patient seemed moribund. Shirt ripped open all down. The surgeons and assistants took part in the measures adopted as follows: Two at patient's arms for Silvester's method of artificial respiration (relieving guard); one at feet (counter-resistance); one to admit fresh air; one to turn face on left side, hold tongue forward, wipe mouth; one to spank face and chest with cold wet towel. Recovered perfectly in 7 minutes. Had taken chloroform in New York infirmary in 1870. Of fine frame, with no cardiac lesion. All being able to fall to work readily for resuscitation conduced to success. "Inclined to prefer 6 reliable assistants to any number of galvanic machines."

59.—Female, aged 27. For chronic disease of hip-joint; exploration; 4 minutes. Pulse failed first. Patient showed no signs of returning consciousness, so window was opened and face and chest flapped with wet towel. But pulse became more irregular and sank alarmingly. Inversion (Nélaton's method) repeated 4 times, between which patient made an apparent recovery each time; the last was successful. Injection of brandy, egg, and beef tea; sprinkling of face with water refrigerated with ice; and artificial respiration also made use of. After 2nd inversion patient recovered consciousness and power of speech for a while. No pallor till after 2nd inversion. Did not get over symptoms of chloroform poisoning for 3 days. Weak, anæmic, and hysterical. Chronic and cataleptiform case of chloroform poisoning. This case, together with Nos. 60 and 61, can hardly be attributed to continuous chloroform poisoning, it being doubtful whether chloroform remains even an hour in body after it has been given; moreover, same symptoms occurred in case under nitrous oxide. More probable that there is formed in body an organic compound which, like amyl and sulphur compounds, produces cataleptic condition. If this be so, a volatile narcotic would give a start to action of narcotic already in body, which would be sustained after producing agent was eliminated from body.

60.—Female (young adult). Remained unconscious for 3 days, but recovered without ill effects.

61.—Female (young adult). In a few minutes burst into fit of laughter, then became unconscious. Various measures used to restore patient, it being supposed she was still under influence of chloroform. After 36 hours a medical man was sent for. He found patient profoundly insensible and breathing feebly. Valerian was given, and in a few hours unconsciousness passed away.

62.—Female. Radical cure of vesico-vaginal fistula. Pulse and respiration failed simultaneously. The operation was almost completed when pulse and respiration ceased. Immediately at Nélaton's order the body was inverted, the head hanging down while the heels were raised in the air. The jaws were held open and tongue drawn out, and artificial respiration performed. It was 15 or 20 minutes before signs of returning life were seen. When the pulse and respiration were fully established the patient was restored to the horizontal position, when she fainted again. The same measures were adopted with success; but she fainted again when placed horizontally.

63.—Child. Apparently dead. Inversion and suspension by feet, and forced movements of chest (Nélaton's method).

64.—Female, aged 18. Extraction of tooth. Chloroform given in cone-shaped napkin. Pulse and respiration failed together. When tooth had been extracted did not return to consciousness. Pulse small and feeble, and together with respiration soon failed. Was laid on bed. Muscular system relaxed, lips, face, and hands livid, breathing and pulse having ceased. Inversion by Nélaton's method together with artificial respiration. Was laid on bed again, but breathing and pulse failed. Was removed, and artificial respiration again resorted to. When laid down again, spasmodic twitches of muscles followed, with inclination for deep sleep, so spine was stimulated and feet put into almost scalding water, which roused patient thoroughly.

66.—Male, aged 9. To facilitate suture of wound of hand. No evidence of breathing and no pulse at temple or wrist. Head placed on floor and legs held perpendicularly; window opened, cold water dashed on face, and artificial respiration. Feeble respiratory effort ensued, followed by vomiting. Mouth became closed through tongue slipping from hand of operator. Jaws relaxed, though another attempt at vomiting; tongue held firm till breathing was established, and pulse perceptible. Kept inverted for another 5 minutes. Patient laid down, reclining at acute angle, went to sleep, and recovered. Recorded to show the advantage of Nélaton's method over artificial respiration in horizontal position.

67.—Male. Pulse and respiration failed together. Became suddenly faint; blue lips; blood turning black; breathing very imperfect. Nitrite of amyl (3 drops) caused return of respiration and pulse with vomiting. Patient boy, pale, fat, blue lips and cheeks.

68.—Female. Pulse and respiration failed together. Became blue in face and stertorous (tongue falling back). Lint with 10 drops of nitrite of amyl was placed over nose and mouth. In a few seconds blueness and stertor gave way to good colour, regular breathing, sickness, and vomiting. Patient middle-aged.

69.—Male, aged 6. Staphyloma of left eye, 3 minutes. Chloroform on flannel on wire frame. Pulse and respiration failed together. Anæsthesia obtained with some difficulty. Operation performed successfully; when patient became suddenly deathly pale with corpse-like appearance and colourless lips; the heart had ceased beating; both pulse and respiration had stopped. Jaws forced open and tongue drawn out. Patient held up by feet, entirely upside down, supported by operating chair. Artificial respiration then commenced. After ½ minute of this suspension by feet, and strong pressure on the thorax repeated 16 times, colour returned to face, and some glairy viscid matter was vomited. Artificial respiration continued for a minute, and the child then placed on the chair in a horizontal position, face inclined sideways, and a little lower than the rest of the body; windows opened wide, and patient's face and chest vigorously struck with hand and flipped with wetted linen cloth. Face remained pale; but, under this striking and flipping of the skin, pulse reappeared, thready at first, then became stronger. The respiration became regular, with frothy vomiting now and then in jerks. When the child was taken out into the air he fell into the slumber that usually follows anæsthetisation, but respiration and circulation were normal. After dressing, placed on a bed near window; was in state of stupor several hours, interrupted by attacks of vomiting, which were frequent in the evening 10 hours after operation. Passed a good night and recovered. Patient quite blind, just a small perception of light left. "The chloroform employed had already been partly used some days before; there was nothing in its odour that could suggest the fear of a fatal result.

70.—Female, aged 7. Division of internal recti for strabismus. 1 dr. of chloroform given. Pulse failed first. Pallor, cessation of heart-beat, dilatation of pupils, failure of respiration and pallor exchanged for deep lividity. Patient turned on left side, pressure applied beneath heart, chin drawn away from sternum, and jaws separated by finger. No signs of recovery, so tongue drawn out by artery-forceps. Respiration was soon re-established, the faintness passing away with an attack of vomiting and on face being sponged with cold water. The parents of patient were strictly enjoined to give her no food after a certain time before operation; but this order was not carried out.

71.—Female. Dilatation of intolerant fissure of anus. Small quantity of chloroform only. Patient soon came under with prior excitement, and after the operation had been performed, remained deeply under, the thorax being quite immovable and pulse very feeble. The various efforts at restoration had to be continued ¾ hour before respiration was completely re-established. Very nervous temperament. Pregnant 2 months.

72.—Female, aged 40. Dilatation of anus. Small quantity of chloroform only. After 4 or five inspirations she fell into a state of resolution without prior excitement. The patient came to almost immediately after the operation, which took only a moment. Reporter says that had the chloroform been continued "disastrous results might have ensued." Patient was nervous.

73.—Female, aged 7. For strabismus. After the operation was finished patient suddenly ceased breathing, and there was no radial or carotid pulse. Holding up by ankles and artificial respiration made while in that position. Breathing was restored, but ceased on laying her down; was raised again, and breathing restored; laid down again, and breathing failed for longer time than before. The same means at last restored her; vomiting followed at once and consciousness returned.

74.—For anal fissure. Small quantity of chloroform. Pulse and respiration probably failed simultaneously. Anæsthesia quickly induced. No excitement. Patient relapsed into a state of profound coma, respiration ceasing and pulse becoming very feeble. This slow form of death from chloroform has been called by M. Perrin the "adynamic" in contradistinction to the more sudden form called the convulsive. Resuscitation very difficult. Great excitation of the nervous system follows these so-called intolerant fissures of the anus, which is liable to influence the susceptibility of the patient to the influence of chloroform.

75.—For anal fissure. Symptoms very alarming. Chloroform discarded and instant dilatation resorted to.

76.—Male, aged 60. Removal of large epithelioma by means of galvanic *écraseur*. Clover's inhaler used. Respiration failed first. Pause in breathing. Chloroform tube removed, but inhalation continued by nose-cap, as respiration good and stage of operation important. Respiration began again, but feeble, so chloroform discontinued. Pressing upon chest and abdomen; drawing forward tongue (ligatured); artificial respiration (Silvester's method). These means failing, laryngotomy performed. When laryngeal tube inserted Silvester's method successful. To complete operation more chloroform given; laryngeal tube acting well. Operation completed, patient making good recovery.

77.—Female. Dental operation. Patient almost lost her life. On recovering consciousness it was found that tongue had almost been divided in two by the teeth.

78.—Female, aged 49. Removal of fatty tumour in left lumbar region. 2 dr. chloroform only used. When just about to pass into third stage made an abortive effort to vomit and raised head from pillow; pulse flickered and stopped; patient gave gasp; foam gathered on lips; jaw became rigid; was apparently dead. Dashing cold water on face; pulling tongue forward; artificial respiration (Marshall Hall's method), without success. Nitrite of amyl on lint held to nostrils; pulse and respiration restored. Anæsthesia still being present, operation performed. There was, by inference, syncope from paralysis of heart, and this was met by nitrite of amyl, which gave a fillip to the arrested circulation.

79–80.—[1876]. Pulse failed first in each case. The symptoms noted were sudden failure of pulse, lividity of countenance, feeble respiration, and the measures adopted for resuscitation were: Discontinuance of anæsthetic; pulling forward tongue; artificial respiration; free current of air.

81.—Female, aged 7. Enucleation of eye-ball for sarcoma of choroid. Speculum introduced; globe of eye burst; prolapse of vitreous; globe enucleated, followed by free bleeding. Patient became faint and suddenly collapsed. Immediately inverted by raising legs and suspending with head downwards; tongue drawn forward; deep inspiration followed, and natural breathing, and healthy colour restored. Delicate feeble child.

82.—Male, aged 36. For catheterism for rupture. Respiration probably failed first. The patient suddenly ceased breathing, and appeared moribund. Artificial respiration (Silvester's method); drawing tongue and larynx well forward. Tracheotomy performed, and artificial respiration re-commenced; much blood sucked into trachea and coughed up. Colour of face became normal, and spasm of the glottis disappeared. Recovery, but operation abandoned for the time. Operation performed under ether on another occasion. (See Ether Untoward Cases, Series B, No. 13.) With ether, the dangerous spasm came on before anæsthesia was very profound; with chloroform, spasm came on at later stage, and was accompanied by paralysis of respiratory muscles as if nervous centres more deeply affected.

83.—Female, aged 22. Labour (to relax uterus in aid of version). Pulse and respiration probably failed simultaneously. The symptoms given are: Ceased breathing and became pulseless. With difficulty resuscitated and slightest inspiration of chloroform reproduced alarming symptoms. Strong, healthy, free from heart or lung affection.

84–85.—Female, aged 30. (1) For labour. Respiration probably failed first; after 6 deep inspirations, ceased breathing. Restored by Marshall Hall's method. (2) For labour. Chloroform given on handkerchief (small dose). Respiration probably failed first. Breathing ceased. Restored by Marshall Hall's method. These two cases and No. 83 are recorded to show that patients in labour do not enjoy an absolute immunity from the pernicious effects of chloroform. Patients free from cardiac or pulmonary complications.

86.—Female. Marion Sims' operation 30 minutes). 3½ drs. given in Junker's modification inhaler. Respiration failed first. Semi-anæsthetic state produced in 2 minutes. Respiration slow and shallow from the first. Pulse fair. Beef-tea and brandy administered with view of meeting the syncope which was expected. When left under care of operator pulse was slow and feeble. Patient was semi-conscious and complained of the operation. Syncope lasted for 6 hours, when she was sick. Had suffered from almost fatal syncope on one occasion, and very severe syncope on another, after administration of nitrous oxide gas.

87.—Infant, one month old. For harelip. A few minims given in a Junker's modification inhaler. Respiration failed first. Operation nearly completed, child struggling and feebly crying when respiration stopped and the deathly pallor ensued. The child was inverted and a teaspoonful of blood ran from its mouth. Artificial respiration kept up. Heart felt to be beating strongly. Respiration was restored with a good cry.

88.—Male, aged 11. Removal of pea from ear. 30-35 minims of chloroform given on a handkerchief. Pulse failed first. Scarcely had the inhalation ceased than the boy's pulse entirely failed. Efforts of the usual kind for restoration were tried in vain for 20 minutes. His head and upper part of body were then thrust out of the window to try the effect of the cool air, but as no effect was produced one of the assistants seized hold of the boy by the legs and hung him out of the window with his head downwards, swinging him to and fro like a pendulum. After 4 or 5 minutes of this procedure, the boy's face became red and he uttered a cry. The respiration and circulation were restored after more than half an hour's arrest.

89.—Male. Pulse and respiration failed together. Heart and re-

spiration became suddenly arrested. Half an hour afterwards, amongst other means for restoration, he was bled, and gas was observed in the stream which flowed from the vein. Half an hour later he made his first independent inspiration.

90.—Male, aged 24. Cautery for injury to spine. Pulse and respiration failed together. At first pulse and breathing good, but respiration ceased suddenly and completely. Mouth and rima glottidis cleansed from mucus; head allowed to hang over edge of bed for few seconds; body placed on floor and needle and thread passed through tongue which was held forwards; artificial respiration, cold water thrown on body and ammonia to nostrils. After 6 minutes with more artificial respiration heart began beating but no breathing. Hard slaps, cold water on face and chest, blowing down fauces, tried, but useless. At last deep inspiration, then others. Galvanic battery tried with (accidentally) full force of current from 50 cells, but this suddenly and successfully resuscitated patient. This was the 5th time the operation had been performed, each time under chloroform. Patient cheerful and intelligent. Spare, fair and boyish-looking. Had lost all sensation and voluntary movement below waist.

91.—Female. Ovariotomy. Pulse and respiration failed together. Operation had just been commenced when respiration suddenly stopped and the heart ceased to beat—bleeding ceased and lips of wound bloodless. Mouth cleansed from mucus, tongue drawn forwards, patient's head thrown well back and artificial respiration for 10 minutes—without result. Case almost desperate when surgeon put large cloth in boiling water and applied it to cardiac region. Pulse and respiration returned, operation not terminated.

92.—Female. Removal of uterine polypus. Pulse and respiration failed together. Operator had just passed hand into vagina and was about to apply *ecraseur* when pulse suddenly stopped. Respiration ceased almost simultaneously. Jaw dropped and tongue lay between teeth. Percussion of heart, artificial respiration (Silvester's method), cold affusion, and hypodermic of ether tried with no avail for 3 or 4 minutes. Patient then seized by shoulders and placed on floor and legs elevated. Pulsation in neck began. Was placed on bed. Distinct cardiac action but respiration suspended; again pulse grew feeble. Re-inverted for 2 minutes; strong palpitation began, followed by few gasps. Several distinct clonic convulsions of right side. Respiration became natural, and after 5 minutes of quiet sleep patient awoke. Operation deferred. Had been put under chloroform for same operation on 31st of October, 1880. Took anæsthetic well. Present operation took place 6th of March 1881. How far interference with genital organs provoked the syncope could not be said. Operations on testicle not thus provocative if chloroform narcosis deep enough. Midwifery experience against such a presumption. It was possible that the powerful stimulating properties of the ether was overbalanced by the addition to the narcosis.

93.—Male, aged 66. Removal of upper jaw. Chloroform given through nasal catheter. Respiration failed before pulse. Short time after commencement of operation, respiration became shallow and at length ceased. Heart's action kept up with vigour. Artificial respiration. Patient recovered, but did not make any efforts at breathing till the artificial respiration, had been kept up 10 minutes, together with tickling his sides, which had the chief effect. Operation then proceeded with; only small quantity of anæsthetic given; respiration occasionally threatening to cease. Patient died 2 days after operation, apparently from exhaustion. Post-mortem. Lungs emphysematous, right adherent. Heart: slight fatty degeneration of muscle.

94.—Male. For cleft palate (1 hour). Pulse failed first. Had been on table nearly 1 hour when pulse began to flag, which at last could not be felt at wrist. Cessation of respiration followed. Gag being removed and head lowered, preparatory to artificial respiration, both pulse and respiration were established. Patient not deeply under influence of chloroform, owing to depressed condition, vomiting and loss of blood.

95.—Male. For relief of nephritic colic. Pulse probably failed first. Pulseless, gasping for breath; apparently dead. 1 dose of morphine (hypodermic) had been given (with hot bath) before chloroform, and with chloroform a dose of morphine by the mouth and dose of morphine and atropine (hypodermic). Pain suddenly relieved (probably by passing the calculus from ureter into bladder), but "sudden relief from pain caused narcotics to have the greatly increased effect." Was resuscitated after efforts of 2 hours. See also New York Medical Record, September 2, 1882, p. 274. Here it is considered that the well nigh fatal result was due to *inhalation of chloroform* while giving morphine.

96.—Female, aged 19. Excision of elbow-joint for anchylosis. 2-4 drs. given. Respiration failed first. Operation hardly begun when breathing completely stopped. Face became pallid, but pulse was felt in radials throughout. Artificial respiration (first direct, then Silvester's method) was kept up with momentary stoppages; windows opened; chest with shoulders raised, and head thrown back and lowered; was flipped with cold water towels, &c.; faradaic current applied, one pole over phrenic, other over epigastrium. This brought on action of diaphragm and abdominal muscles of expiration, greatly aiding voluntary respiration, now almost restored. This followed by prolonged drowsiness; stimulants administered; cold water dashed in face and ribs kneaded. After restoration from effects of chloroform, heart examined and pre-systolic roughness found in mitral area. Had scarlet fever when 10 years old. Her father died of heart disease, aged 58. Patient had taken chloroform well 3 days before. Operation successfully performed under ether a week later.

97.—Female, aged 5. For diagnosis for vesical calculus. 1 dr. of chloroform given. Pulse and respiration failed together. Greyish lividity, gasping for breath, cessation of heart-beat. Ether injection in leg; inversion; intermittent pressure on chest walls; holding lower jaw forward. Breathing and pulse returned, but both very feeble for ½ hour. Inversion continued for 1 hour. When patient was laid down (which was twice in hour), face became pale and pulse flickered. Full restoration after 2 or 3 hours. Heart and lungs healthy.

98.—Male, young adult. Removal of right middle finger at centre of metacarpal bone. Chloroform given on handkerchief formed into cone. Pulse and respiration failed together. No blood flowed from wound, and expression of face became deathlike. Pulse barely perceptible, and had almost ceased to breathe. Strong friction with turpentine on the limbs and trunk towards the heart after a time restored animation.

99.—Patient, aged 3. For cancer of left eye. Pulse and respiration failed together. Operation had proceeded no further than division of the conjunctiva when respiration ceased, and also pulse at wrist. 3 or 4 times anæsthesia had to be stopped, child being held head downwards, and operation being performed while child thus suspended. Inverted position kept up ½ hour.

100.—No particulars.

101.—Boy. For crushed thigh. Appeared to be dead. Was inverted till life re-appeared.

102.—Death seemed imminent, from stoppage of heart. Heart stimulated to contraction by pretty heavy blows administered with open palm over the cardiac region.

103.—Male, aged 10. Extraction of teeth. Pulse failed first. Before operation was begun, pulse very weak. Chloroform withdrawn, and pulse became strong. Chloroform re-applied; pulse again failed, but returned when chloroform removed. 10 minutes after, ether used, with Clover's inhaler, and pulse became full and strong. Teeth successfully extracted.

104.—Female, aged 5. (½ minute.) Pulse and respiration failed together. Appeared quite dead, pulse and respiration ceasing at same moment. Artificial respiration; but as natural colour was leaving face, and replaced by livid pallor, nitrite of amyl also used, being held to mouth as air produced by artificial respiration was passing in and out. At last there was a sound as if vocal cords were moving; artificial respiration still kept up, but upon cessation for a moment patient was found to be naturally breathing. It was 5 minutes after the commencement of taking measures before signs of life appeared. It was considered that without the nitrite of amyl the child's life would not have been saved. The cause of apparent death was that although utmost pains had been taken to keep the child from eating anything, she had managed to devour an apple, of which, on becoming conscious, she vomited stalk, core, and part of skin. The indigestible matter appeared to have caused reflex paralysis of cardiac and pulmonary centres, as at no time was there any obstruction to passage of air. Child had apparently taken no food, and clothes were loose when chloroform given and everything in order. Had been anæsthetised 3 times before without anything unusual occurring.

105.—Male, aged 14. Cauterising chronic ulcer. Respiration failed first. While dressing was being applied and after chloroform had been removed patient suddenly ceased to breathe. Rolling (Marshall Hall's method); this done for several minutes, but hands became cold and lips purple. Nélaton's method resorted to; the boy's legs were flexed over shoulders of administrator, head and legs dangling to the floor; was thus carried, at running pace, round room for 3 minutes, until respiration returned by degrees. Was again laid on table. Breathing again became arrested; resort had a second time to suspension, which was followed soon again by restored respiration. Vigorous and healthy; taking the anæsthetic kindly; all being effected without any difficulty.

106.—Female, young adult. For entropion. Respiration failed first. When about half through operation respiration suspended, and all efforts to restore it ineffectual. Suspension resorted to, as in last case, and breathing at length restored. Was of large size. Took anæsthetic badly.

107.—Female, aged 7. Tenotomy for strabismus. Probably respiration failed first. Struggling during administration, but no untoward symptom till operation completed, when respiration failed and pupils became dilated at same time. Marshall Hall's method commenced with no success. After some time the child was suspended, and carried round the room by surgeon, then placed on table, and it was found that breathing was noiseless and regular, and the period of consciousness was almost reached.

108.—Male, adult. On testicle. Respiration failed first. Towards

close of operation no chloroform was given, and breathing was regular. Suddenly breathing ceased and lips became ashen. Rolling at once resorted to, but failed. Suspension then tried, a few turns about room effecting restoration of function, and patient was again placed on table.

109.—Female, aged 40. Removal of growth on tongue (more than 7 minutes). Chloroform given in Junker's inhaler with foot-bellows attachment; 3 dr. Pulse failed first. Patient was very excited and talkative; anæsthesia nearly complete, when she became rather pale. At first nothing wrong in temporal artery, but right radial very feeble and none in left; then temporal pulse failed, pupils becoming widely dilated, and respiration shallow and irregular. Administration not discontinued till after pupils dilated and respiration all but stopped (THE LANCET, Oct. 3, 1891, p. 789). Head lowered, artificial respiration, and application to nostrils of capsule containing 3 min. nitrite of amyl. After a minute some colour returned to face, and patient made some attempts to breathe. Brandy enema administered, and friction applied over cardiac area; gradually pupils contracted, and pulse was re-established. Directly after patient began to retch, and brought up a little fluid, and shortly regained consciousness. On auscultation being made as she was recovering consciousness, the cardiac sounds, while plainly audible at apex and over pulmonary valve, were almost inaudible over aortic valve; however, they quickly returned, patient became conscious, and complained of nausea. It was found out afterwards patient had taken sulphonal, without permission, the night before, and for some days afterwards pulse remained very compressible. Patient highly nervous, but otherwise healthy. The application of nitrite of amyl considered to have been of great value in this case.

## REPORTS OF UNTOWARD CASES FROM AUTHORITIES OF HOSPITALS IN REPLY TO THE LANCET INQUIRY.

1.—Male. Circumcision. Respiration failed first. Breathing suspended 1 or 2 minutes ultimately resumed. No particulars given as to resuscitative measures adopted. Child was epileptic.

2.—A few cases. Chloroform given on towel or handkerchief. Alarming; particulars not given. Artificial respiration; stimulants; plenty of fresh air.

3.—Male, aged 29. Fistula in ano (9 minutes inhalation). Esmarch's inhaler used. Respiration failed first; pulse feebly beating. Inversion; artificial respiration (10 minutes). Healthy; operation finished without use of anæsthetic; breathed after 3½ minutes of artificial respiration.

4–7.—Stretching anal sphincter. Chloroform given on flannel on wire frame. Respiration probably failed first. Inversion together with artificial respiration.

8–28.—Chloroform given on flannel on wire frame. Respiration probably failed first. Inversion together with artificial respiration.

29.—Female, aged about 30. Necrosis of tibia. Snow's inhaler used. Respiration failed first. 2 or 3 minutes after commencement respiration stopped whilst heart was beating. Artificial respiration.

30.—Children. Respiration failed first, failing on completion of operation, and when administration had ceased. Artificial respiration.

31.—Several cases. Pulse failed first. Sudden blanching of skin, coldness, feeble pulse, and every symptom of cardiac failure; breathing slow and shallow. Patients at once revived by administering ether. Chloroform supplied by a firm other than the one usually supplying hospital. No chemical analysis made. No recurrence of untoward symptoms under fresh lot of chloroform ordered.

32.—Several cases. Respiration failed first. Artificial respiration and inversion.

33.—Respiration failed first. Artificial respiration.

34.—Male, aged 13. Diseased bone. Chloroform given on lint. Collapse, operation had to be stopped. Artificial respiration. Weak, anæmic; health improved when subsequent operations were performed. Soon after admission a very large abscess opened under chloroform, brandy and water having been given previously. No accident occurred. 2nd time he had chloroform without antecedent stimulant; collapse occurred. On 3rd occasion his thigh was amputated under chloroform; antecedent stimulant given; no accident. On 4th occasion stimulant was omitted, and collapse occurred. On 5th occasion stimulant given; no untoward symptoms.

35–38.—All children. Respiration failed first. Breathing ceased, with intense pallor. Artificial respiration.

39.—Circumcision (10 minutes). Chloroform given on towel. Respiration failed first. Breathing stopped. Artificial respiration; flicking with wet towel. Feeble infant. Dorsal decubitus.

40.—Male (elderly). Amputation of penis (½ hour). Chloroform given on towel. Respiration failed first. Breathing stopped. Artificial respiration; wet towel; injection of ether.

41.—Male, aged 61. Amputation of thigh (1½ hours). Chloroform, 6 dr., given in a Junker's inhaler. Pulse failed first. Pulse very weak at times.

42.—Male, aged 75. Removal of tongue. Chloroform given in Junker's inhaler. Respiration failed first. Breathing at one time bad.

43.—Male, aged 68. Removal of left lower jaw. Chloroform given in Junker's inhaler. Pulse and respiration failed together. Breathing stopped early in operation; pulse also weak. Inversion; quick recovery.

44.—Male, aged 35. For empyema. Chloroform given in Junker's inhaler. Pulse failed first. Pupils became very dilated, just as anæsthesia complete; no conjunctival reflex; was struggling a little. Pulse very slow, though fair power.

45.—Male, aged 36. Pneumotomy for gangrene of lung. Chloroform given in Junker's inhaler. Respiration failed first. 2 slight epileptiform fits while going under. Towards end of operation, stopped breathing; became livid. Fair pulse; pupils normal. Artificial respiration; recovery.

46.—Male, aged 74. Neurectomy, for neuralgia of stump. Chloroform given in Junker's inhaler. Pupils very dilated; no other bad sign.

47.—A few cases, all women. Alarming (no particulars).

48.—No particulars.

49.—Male, aged 30. Removal of hæmorrhoids. Chloroform given in wire mask covered with flannel. Artificial respiration.

50.—Female, aged 55. Removal of breast. Chloroform given in wire mask covered with flannel. Head on lower level; artificial respiration.

51.—Male. Chloroform given in Skinner's inhaler. Had epileptiform attack. Same patient was given ether on a former occasion with untoward results. (See Ether Untoward Cases, Series C.)

52.—Male, 50–60. Chloroform given in Skinner's inhaler. Respiration failed first; stopped breathing; pulse kept going. Promptly raising legs; drawing chin and tongue well forward; artificial respiration (Silvester's method). Recovery.

53.—Infant. Chloroform given in Skinner's inhaler. Respiration failed first. Stopped breathing; pulse kept going. Promptly raising eyes; drawing chin and tongue well forward; artificial respiration (Silvester's method). Recovery.

54.—Several cases. Chloroform given on towel. Respiration failed first.

55.—Several cases grouped together as occurring in India with remarks we have epitomised as follows: Spirit drinkers and eaters of animal food most subject to danger; abstainers from such could be safely anæsthetised by chloroform. Danger often from timid or sparing use of chloroform.

56.—A further report from India of "many cases," only general particulars being given as follows: Chloroform given from a cup inhaler, with a hypodermic injection of morphine. Respiration failed first in these cases. One patient became deadly pale. Partial inversion; other cases artificial respiration; sometimes galvanism.

57–60.—Respiration and pulse failed together. Pulse gave no indication; lividity and stoppage of breathing occurred almost simultaneously. Cases 57, 58, and 59, inversion of body; Case 60, forcible extension of chin. In all, artificial respiration for 2 minutes, together with application of ammonia to nostrils, and naked chest slapped sharply with wet towel.

61.—Male, aged 12. 1 dr. of chloroform. Respiration failed first. Respiration ceased completely; pulse good; pupils not dilated; no change in colour. "Anæsthetic withdrawn." No other particulars given.